TEXTILE WORLD

A McGraw-Hill Publication ..... FEBRUARY • 1951

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☆

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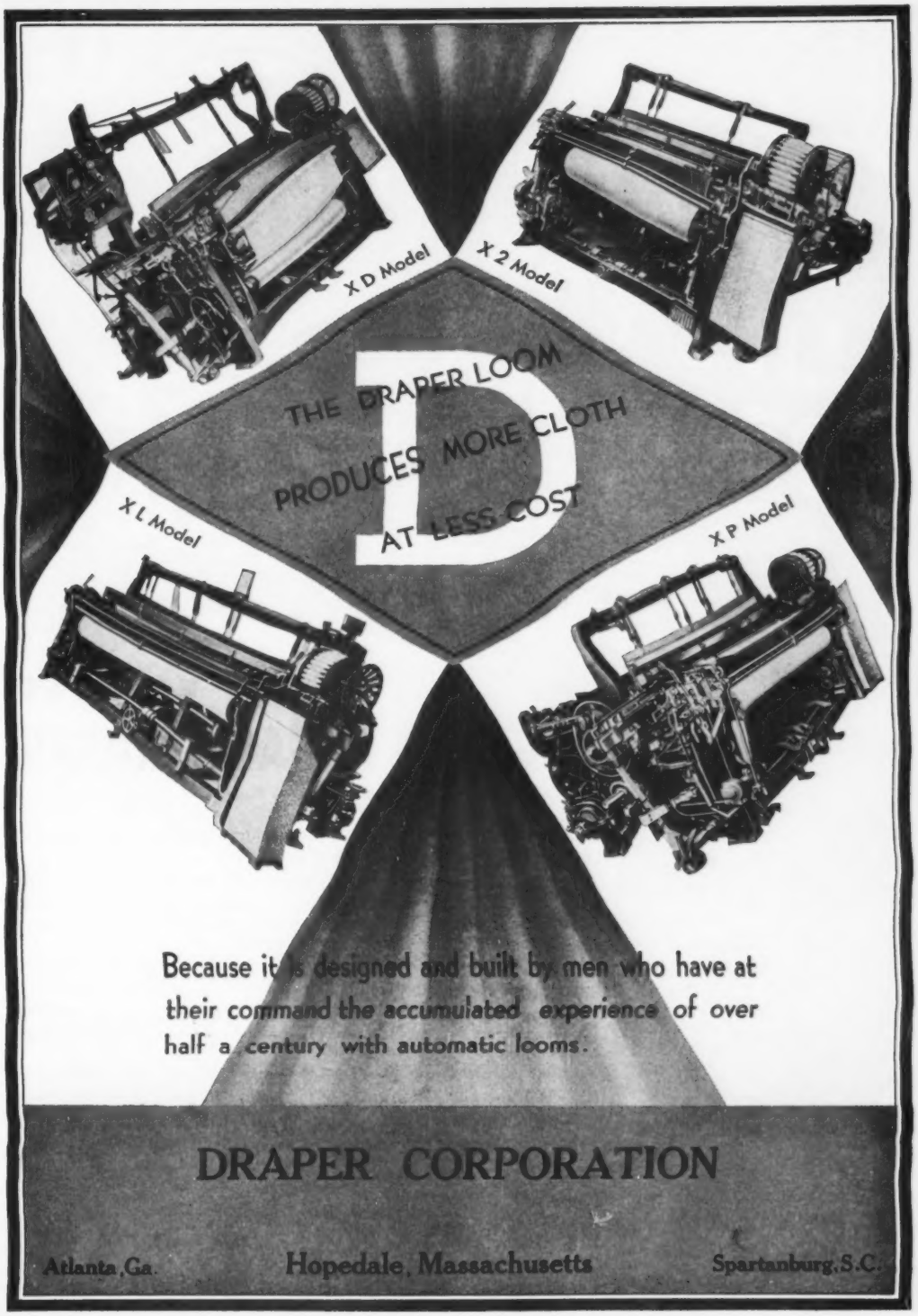

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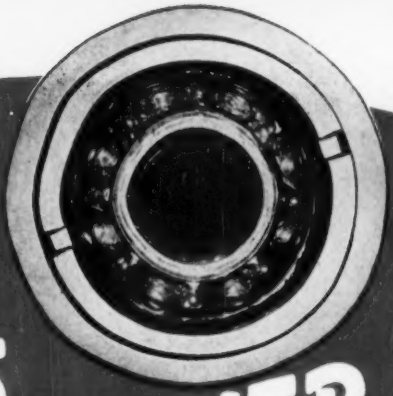

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Uxbridge Worsted YARNS

UXBRIDGE MILL · UXBRIDGE, MASS.

Vol. 9 SEPTEMBER, 1950 No. 6

Strangers At Our Gates

From time to time, as folks leave our plant, they are handed sheaf of paper by strangers.

Those mimeographed sheets are filled with misleading statements, half truths, and on occasion, outright lies. They try to make us believe things which are not so.

Last week they distributed another one. You were, if you read it, expected to believe that conditions in the cotton-rayon industry are better than they are in the woolen-worsted branch.

Here are the facts.

	Cotton and Rayon Weavers per Hour	Woolen and Worsted Weavers per Hour
Before raises	$1.22 per hour	$1.52 per hour
After raises	$1.14 per hour	$1.44 per hour

Thus the woolen and worsted worker is 18cents an hour or $1 a week better off than the cotton textile worker. This is a little different picture than some of these folks would have you believe!

You were also expected to believe, if you read the propaganda, that profits are going up, up, up because prices are going up, up, up.

Here again is a half truth which borders on an outright lie.

Prices have gone up. We do not deny it. But have you seen what a pound of wool costs today as compared with a year ago? Look at these figures which were taken from our files:

In September, 1949, a pound of wool cost us $1.71. By the first of 1950, it cost $2. Between then and now, this same wool has risen to an all-time high of $3.48. Knowing that it takes a pound of wool, roughly, to produce a yard of cloth, simple arithmetic adds up to increased cost per yard of $1.48 since January 1, 1950.

And wool is just one of the raw materials we use. Along with this, the cost of equipment and supplies have gone up, just as your grocery bill has.

And now profits!

You would think, if you read their propaganda, profits are evil. That a company should not make profits.

Now isn't that silly. Profits are the backbone of the free enterprise system. Under this system the U. S. has become great. Under this system we Americans enjoy the highest living standard in the world. Is that bad? Profits built this mill, the new dyehouse, all the new equipment, bought the new machines.

Profits bought the air conditioning and new lighting which makes our mill one of the best in the country to work in.

Profits pay for the research and development of the textile parade.

And profits, are the best job insurance in the world. If a company makes profits, it keeps running. When it starts to lose money, plants, jobs, people and every thing else go.

Telling half truths, concealing facts and figures and trying to mislead folks into believing things which are not so is an old trick. It might work if people didn't have eyes to see what goes on all around them, and we repeat it again, the new mill, the new dyehouse, the clean, modern plant which offers steady jobs at wages equal to or higher than the industry.

The strangers will come to our gates again. You know it. Then, if you have any questions, my door is always open.

Harold J. Walter

This Works at Uxbridge—But There's a Reason

Mill statements like the one above, written as an answer to some recent union literature, are a successful communications tool at Bachmann Uxbridge Worsted Corp. But that doesn't mean they'll work in every mill. In the difference between most mills and Bachmann Uxbridge Worsted Corp. lies the main lesson of this editorial.

At Bachmann Uxbridge there is a strong bond of confidence between workers and management. It is this confidence that wins acceptance by workers of management statements. Only with trust can there be real communication. And the bond of confidence at Uxbridge is and will remain strong because General Manager Harold Walter and the men on his management team work and work hard at keeping it strong. They work at it through sound and square-shooting operating and human-relations policies. They realize that it's what management DOES that counts.

Harold Walter knows, as does any smart mill operator, that labor dissatisfaction is born and bred in a vacuum —a vacuum of good human-relations. Sound human-relations policies are what you'll invariably find as the hallmark of a New England mill that stands non-unionized in the heart of this deeply unionized area—mills like Mt. Hope Finishing Co., Collins & Aikman Corp., and a few others. Unfortunately the number in N. E. can be counted on the fingers of both hands—but where labor in a N. E. mill is not dissatisfied, sound human relations are the reason. Southern mills take note!

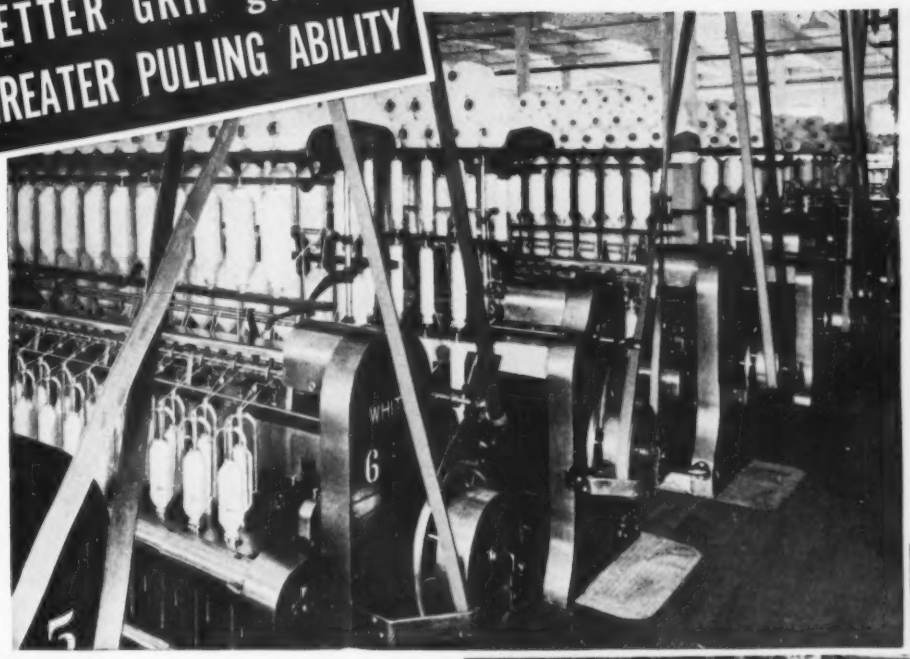
Harold Walter's way of talking turkey to his employees, as he frequently does in statements like the one above, won't work in a mill in which the bond of confidence has been broken (or for some other reason does not exist) and all the honest statements in the world—presented through movies, comic books, or what have you—won't restore it. Building such a bond is a long-term proposition and takes sincere, hard work to maintain it.

But it's worth while! For once it's lost, it's most always lost forever. And with it is frequently lost the ability of a mill to compete.

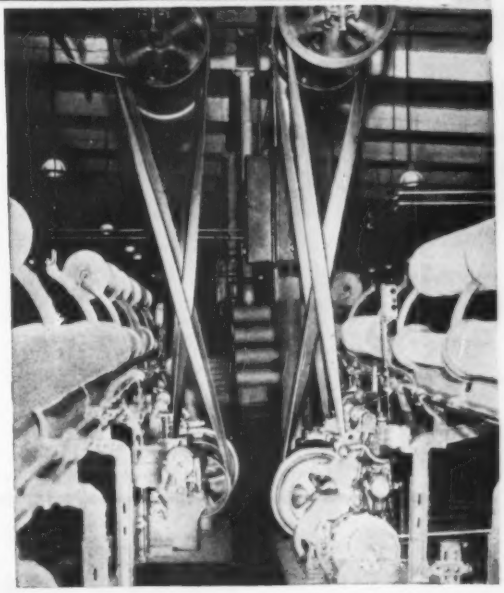
William A. Newell

MANAGING EDITOR

BETTER GRIP gives GREATER PULLING ABILITY



RHOADS *Tannate* LEATHER BELTING



The high coefficient of friction of Tannate assures maximum pulley grip with minimum tension. The result is more power transmitted with less bearing wear on either long or short pulley centers. This better grip lasts. Tannate Leather Belts are carefully controlled from the raw hide to the finished product to give reliable, long-life performance. Performance records are constantly proving that Tannate Leather Belting assures greater production—uniform yardage—less spoilage—lower maintenance.

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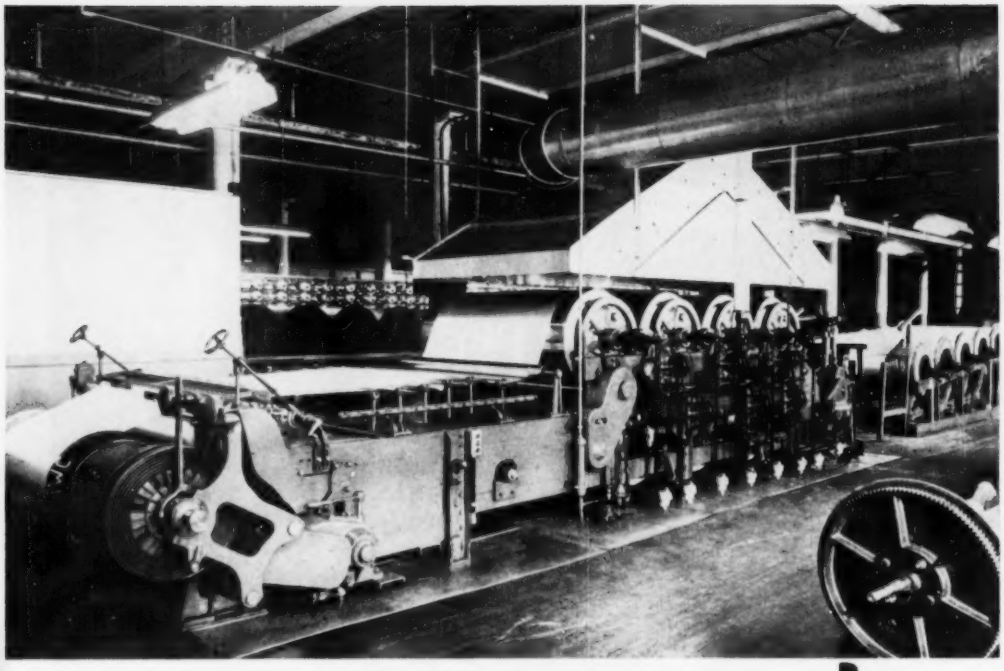

What

SUPERIOR ENGINEERING OF JOHNSON SIZERS

means to efficient mills

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Charles B. Johnson

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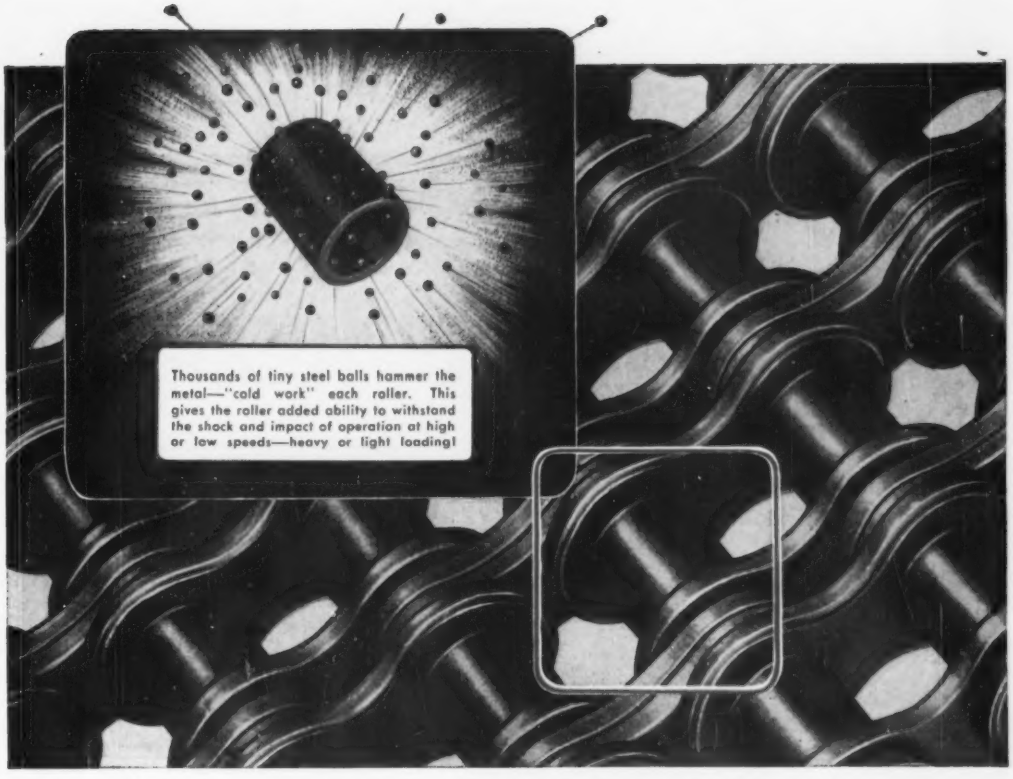
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the ¢ FEW extra ¢ents that make a LOT of sense

When it comes to producing worsted yarn, there is always this important question: Should a spinner spend a few more cents than absolutely necessary when processing top, to try and achieve more efficient production and better finished products? In the case of Nopco* 1656-R, the answer is "yes".

Today, the price of top is the highest in history. Thus the few additional cents involved in the purchase of Nopco 1656-R become insignificant in the face of over-all costs. Moreover, the unique advantages afforded by this remarkable oil far outweigh its price differential when compared to alternatives. Just consider:

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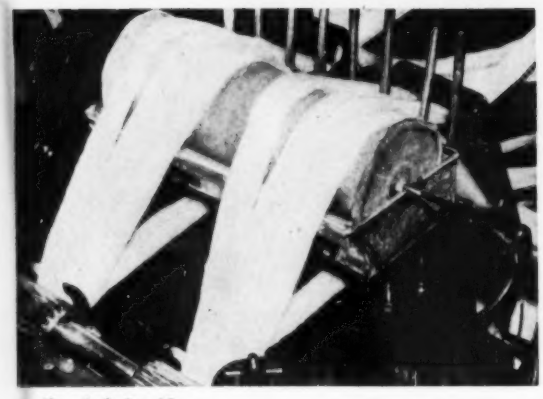

1 ***provides excellent lubrication and eliminates static in worsted sliver. Result: no fly from top treated with this oil—fewer ends down in spinning and winding—much less brush waste;***

2 ***increases the drag, and thereby gives a better draft—resulting in more even and cleaner yarn;***

3 ***scours out with phenomenal ease—actually converting into suds when used with alkali, polyphosphate and water;***

4 ***applies equally to all production systems —American, Bradford or French—and is extremely advantageous on pin drafters.***

*Reg. U. S. Pat. Off.

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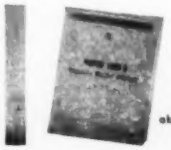

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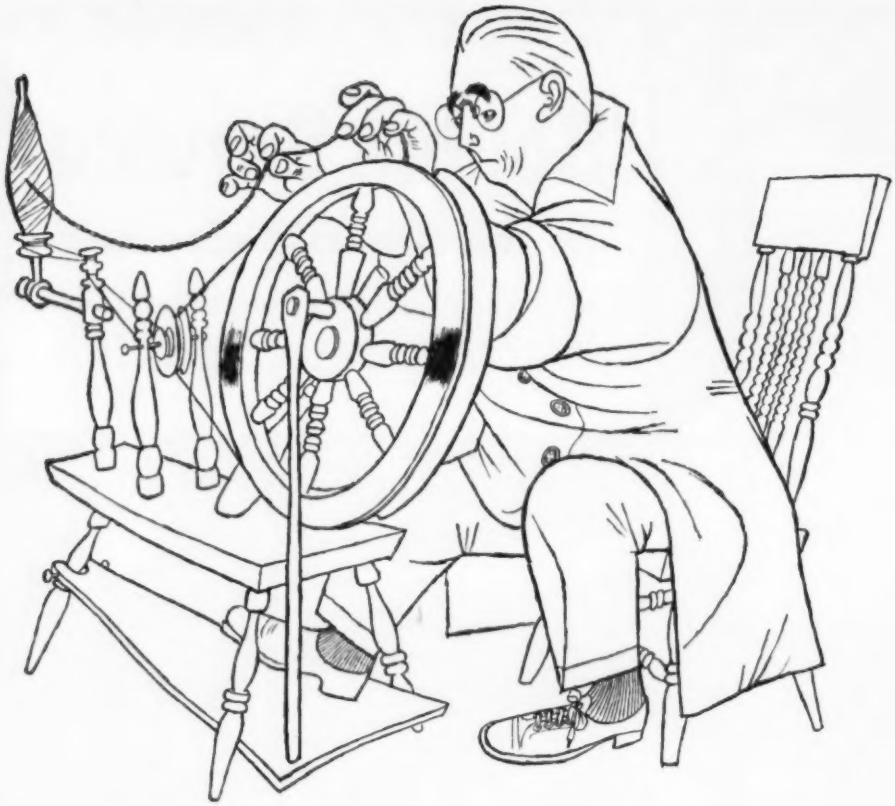

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(No matter how you make them, you need detergents.)

the Armour man is the man to see because he has more different soaps and synthetics than anybody!

(He's bound to have just the ones you need. Write him today.)

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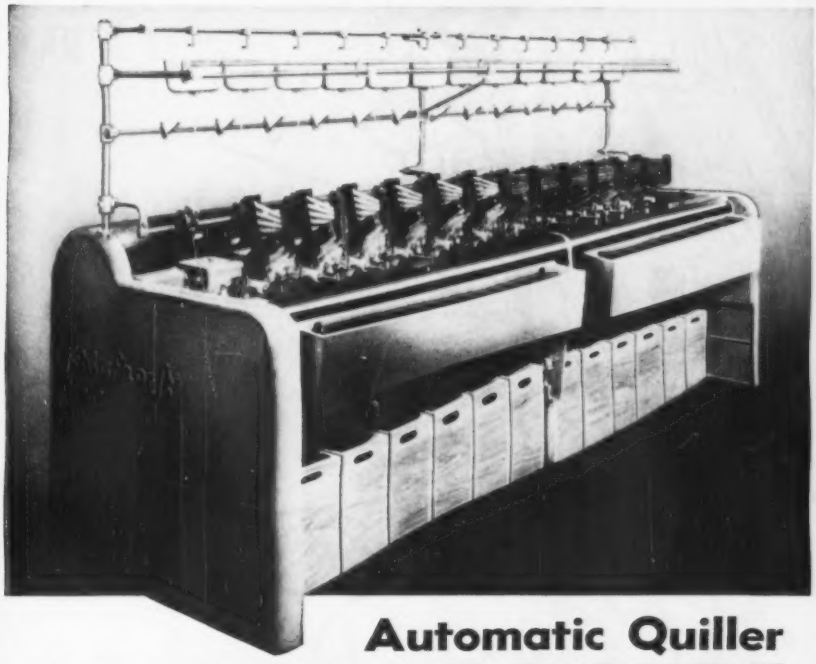
MACHINERY FOR WINDING AND WARPING



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"AUTOCOPSER"

For speeds up to 10,000 REVOLUTIONS PER MINUTE

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20 Years Experience in Automatic Quillers

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BIG FASHIONS FROM

DU PONT

REG. U.S. PAT. OFF.

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. . . THROUGH CHEMISTRY

For nylon . . . for rayon . . .

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LITTLE FIBERS grow

Take a fiber
. . . any fiber . . .
say a fiber by Du Pont!
Say the fiber
grows a fabric
And the fabric
starts a fashion
And the fashion
inspires a promotion
And the promotion
highlights a trend
And the trend
builds volume
Say . . . WHERE did all this start?
Remember . . .
BIG FASHIONS FROM
LITTLE FIBERS GROW
Big people
trust the fibers—
acetate rayon
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nylon
from the laboratories of DU PONT.

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Rayon Dept., E. I. du Pont de Nemours & Company (Inc.), Nemours Bldg., Wilmington 98, Delaware

for fibers to come . . . look to DU PONT

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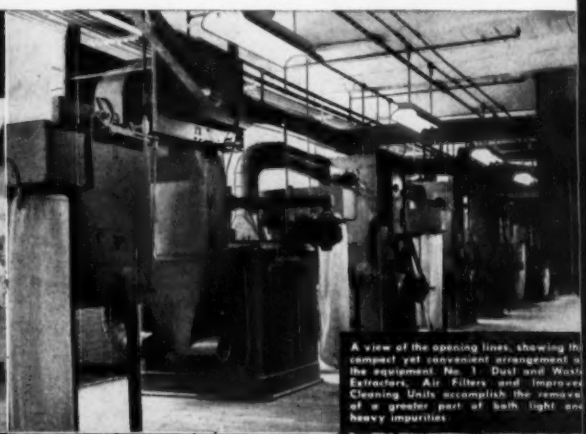
STRAIGHT-LINE OPENING AN

HERE IN THIS FAMOUS NEW ENGLAND MILL IS AN INSTALLATION OF OUTSTANDING MERIT!

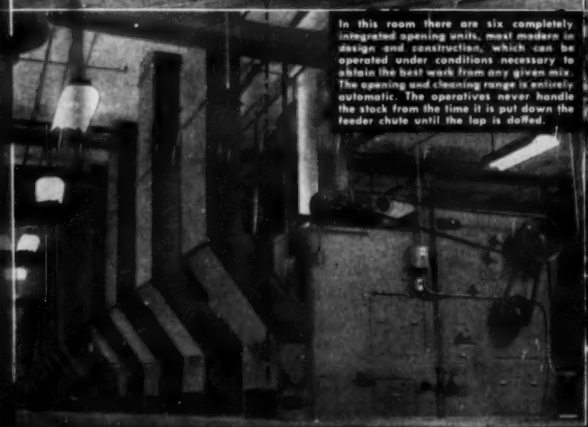
The standard SACO-LOWELL units are arranged in a compact, straight-line production assembly which provides controlled **uniform flow** of the stock. This scientifically planned installation operates with economy of man-power, high machine efficiency, and produces laps of excellent qualities.

The CONTROLLED PROCESSING secures for the mill a high recovery of unbroken and undamaged fibers, thorough cleaning, even laps, and good running work in the carding and spinning rooms.

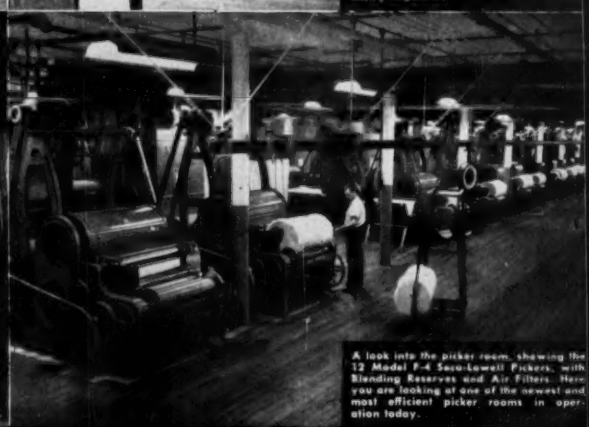
This large, well lighted and conveniently located blending room is directly over the opening room. There is ample floor space to lay down the large lots necessary to obtain completely uniform stocks from different lots of cotton.



A view of the opening lines, showing the compact yet convenient arrangement of the equipment. No. 1 Dust and Waste Extractors, Air Filters and Improved Cleaning Units accomplish the removal of a greater part of both light and heavy impurities.



In this room there are six completely integrated opening units, most modern in design and construction, which can be operated under conditions necessary to obtain the best work from any given mix. The opening and cleaning range is entirely automatic. The operatives never handle the stock from the time it is put down the feeder chute until the lap is doffed.



A look into the picker room, showing the 12 Model P-4 Saco-Lowell Pickers, with Blending Reserves and Air Filters. Here you are looking at one of the newest and most efficient picker rooms in operation today.

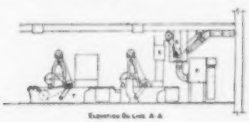
SACO-LOWELL

60 BATTERYMARCH STREET, BOSTON 10, MASS.

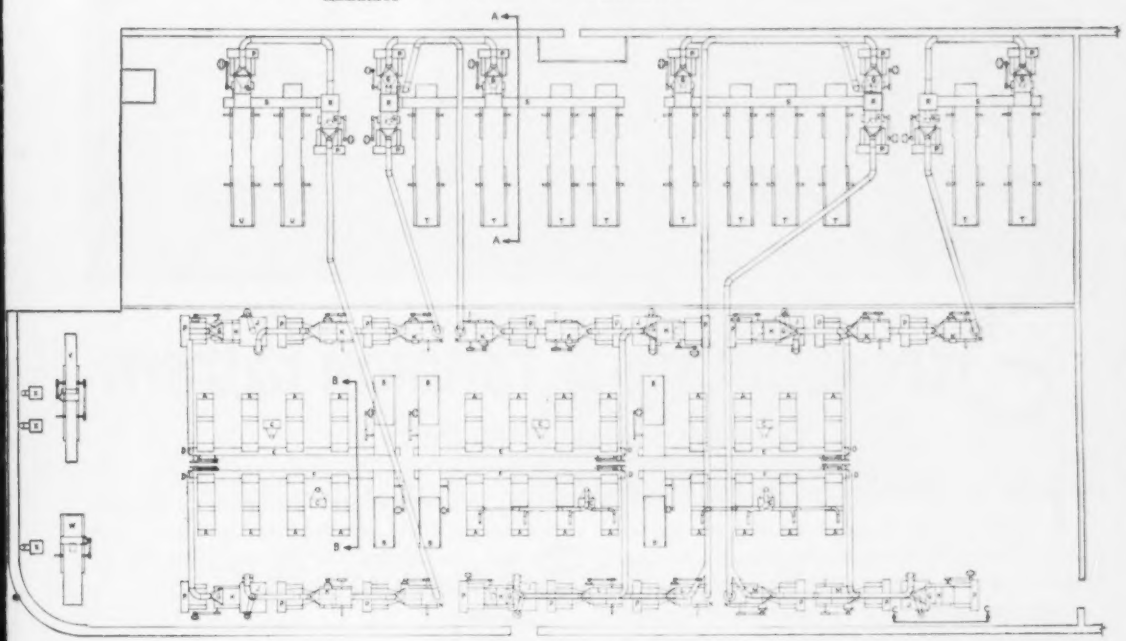
Shops at BIDDEFORD, MAINE and SANFORD, N. C.

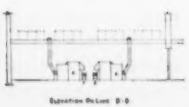
PICKING AT BATES IN LEWISTON, MAINE

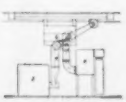
With **cotton** and **operating costs** at the 1951 level, in many cases important savings can be made by improving the layout and equipment in Opening and Picking.



SYM		
A	24	NO. 7 FEEDERS WITH MOTORS & FANS-12 WITH COMBS & 12 WITH COMBING ROLLS
B	6	43" PS WASTE FEEDERS
C	6	NO. 7 TWO BAG FILTERS
D	6	ERIEZ MAGNETS
E	3	36'-0" MIXING FEED TABLES
F	3	35'-6" MIXING FEED TABLES
G	16	NO. 11 CONDENSERS
H	6	S.I. CHUTES FROM NO. 11 COND. TO V.O.-2 WITH BY-PASSES
J	6	VERTICAL OPENERS
K	7	NO. 12-S LATTICE OPENERS WITH NO. 11 CONDENSER FEEDS
L	3	NO. 12 LATTICE OPENERS WITH NO. 11 CONDENSER FEEDS
M	2	NO. 12 LATTICE OPENERS WITH NO. 11 CONDENSER FEEDS
N	6	ADJUSTABLE CONE MOUTHS
P	28	NO. 6 AUTO. AIR FILTERS
R	4	NO. 2 OVER-FLOW RESERVE BOXES
S	4	NO. 2 AUTO. CONTROL FEEDING SYSTEMS
T	10	MODEL F-4 45" ONE PROCESS PICKERS
U	2	MODEL F-4 40" ONE PROCESS PICKERS
V	1	TWO SECTION W-3 WASTE MACHINE
W	1	40" FINISHER PICKER
X	3	NO. 34 AIR FILTERS







Those mills which have not improved their opening and picking within the last few years will find it worth while to have our engineers survey their installations, to determine what savings can be made by straight-line, controlled processing, and modern equipment.

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THE success of your pension plan will depend upon a streamlining job which gears your pension system with *your* particular financial, personnel and industrial problems. And, if your pension plan is not streamlined to fit your company's circumstances, you may suffer serious loss in dollars and greatly reduce the effectiveness of your plan.

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Traditional Blue ...BY MIRON

Accustomed as we are to thinking of blue serge in respect to the boys in the high school graduating class—we're eager to welcome this trim and feminine suit of Miron worsted.

Miron, like so many other mills which "think ahead", calls upon Sandoz for various dyestuffs to meet their high standard of quality. Among the colors selected are the Sandoz METOMEGA chrome colors which they use to insure the long-lasting rich appearance of such fabrics...for METOMEGA means maximum resistance to light and other hazards of wear.

These rugged colors also hold their shade during severe mill treatments like fulling, carbonizing and decatizing. They reduce boiling time by as much as 50% and speed up formula-checking. And they have the unusual property of dyeing loose wool "solid" or free from "tippiness".

And for *any* chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres ...be guided by the successful "color achievements" you see in these Sandoz advertisements.

DIRECT-DYE COTTON AND RAYON WITH CUPROFIX FOR WASH FASTNESS

New CUPROFIX colors and after-treatment give fastness to washing, light, etc., that formerly required more expensive vat dyeing. Write for booklet on CUPROFIX, already adopted by dozens of mills.

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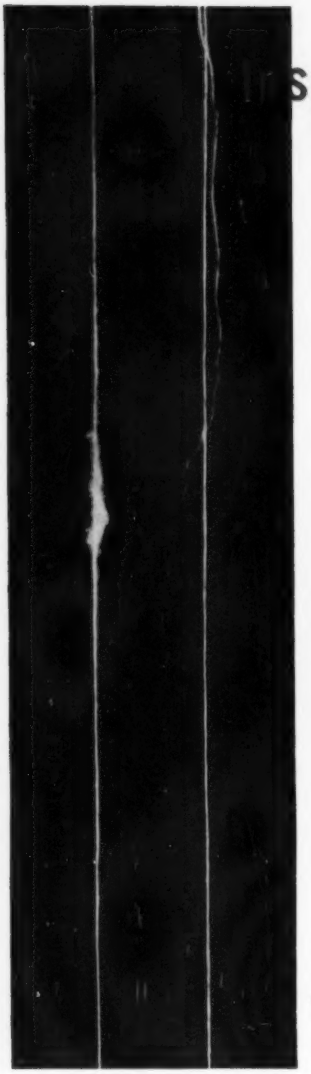
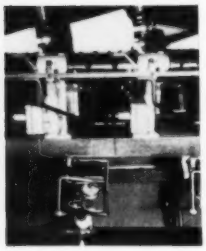
SANDOZ thinks ahead with textiles



Inspect in the Singles Ply without Doubling

—when you package your plied yarn on the Universal-Atwood "double-play" combination.

The most efficient method of processing plied yarn is to wind direct from spinning frame bobbins, inspecting the yarn in the singles . . . then ply from cones to large twister bobbins on the ring twister equipped with single end stop motions. This eliminates doubling . . . all work is done at high speed . . . twisting efficiency is improved . . . waste reduced . . . and much better plied yarn is produced.



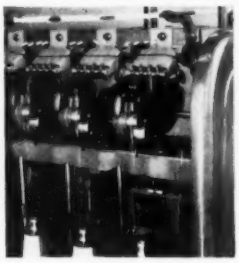
SINGLE END CONING BEFORE TWISTING REMOVES IMPERFECTIONS

On the Universal Roto-Coner*, spun rayons, spun nylons, cottons, worsteds and blends are wound at high speed, while efficient slub catchers — uniformly set and *locked* in position—remove slubs and other imperfections in the singles. The large cones are then used as overend supply for the ring twister.

SINGLE END STOP MOTIONS ELIMINATE DROP PLY

On the Atwood Model 10 Ring Twister, there is an automatic stop motion for each end in the ply. It is located *above the feed rolls*. Whenever a break or runout occurs, the spindle and feed rolls stop *instantly* and the end is caught before it reaches the feed rolls. Thus—drop ply *cannot* get into the package; nor can roller laps occur. Also—ends are tied in the singles *before* twist is inserted, resulting in smaller, less troublesome knots.

*Reg. U. S. Pat. Off.



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ROTO-CONER* *the textile winder with the rotary traverse* | **MODEL 10** *automatic stop motion for each end and ply*

Notice the unique staggered pattern and the double row of wires.

From a Background
of 116 years... comes this

RADICAL DESIGN

**IN A SELF-STRIPPING
FANCY FILLET FOR WOOLEN CARDS**

Since 1834, the Belgian firms of Duesberg-Bosson have been designing and building textile machinery and the necessary equipment required for its operation. As an outgrowth of many generations of experience, this patented self-stripping Fancy Fillet for 20 years has met with outstanding success in many foreign countries. Now it is being manufactured in the United States, so as to provide the very best service to American mills.

Several highly desirable advantages are assured: 1. Increased card production, due to 50% reduction of down-time for stripping. Your cards work *double time!* 2. Saving of half the labor formerly required for stripping. 3. Improved yarn quality, because the continuous self-stripping action of the fillet produces cleaner, more uniform roping.

DUESBERG-BOSSON
CARD CLOTHING CO.
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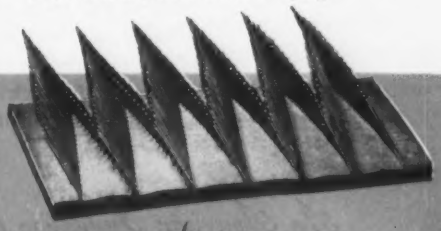
Manufacturers of Card Clothing for Cotton, Wool, Worsted, Silk, Rayon and Asbestos Cards. Brush and Napper Clothing for all types of Napper Machinery. Card Clothing for Special Purposes.



FREE { SAMPLE FILLET ON REQUEST

We have prepared some short lengths of this self-stripping Fancy Fillet. Any interested mill men may have one by asking for it.

All types of comber aprons for the worsted trade. Woolen condenser aprons and tapes. Belting, both round and flat. Sole Distributors, U. S. and Canada, for H. Duesberg-Bosson Fils fine leather specialties, manufactured in Verviers, Belgium.

we could promptly deliver all or any of its 487 parts

Naturally it would be more economical to deliver an assembled Platt Card, but our manufacturers are so well established . . . our parts-service departments so strategetically located that we could promptly deliver *any or all* of its parts. When you are purchasing any textile machinery, this availability of parts-service is an important factor. Atkinson, Haserick & Co. has faithfully supplied American mills for over a century.

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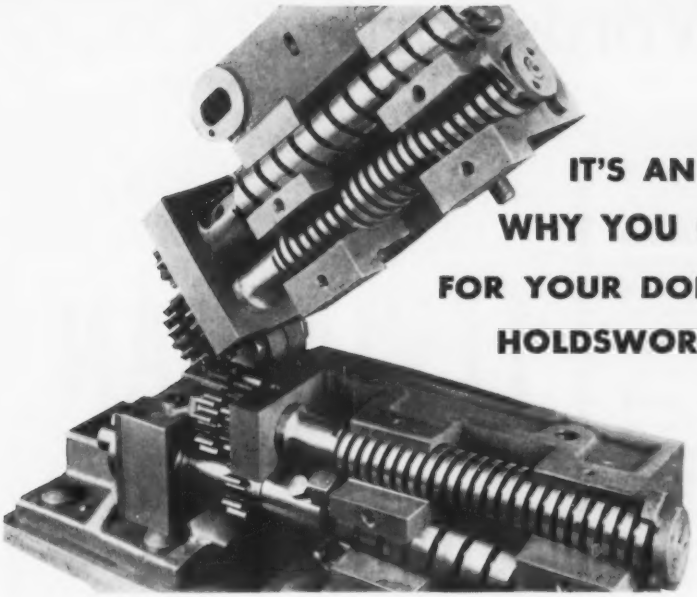
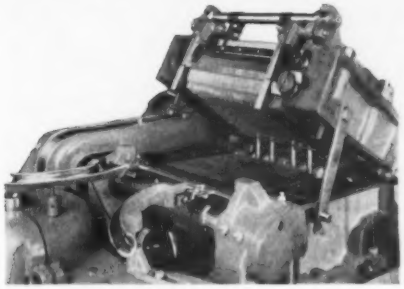
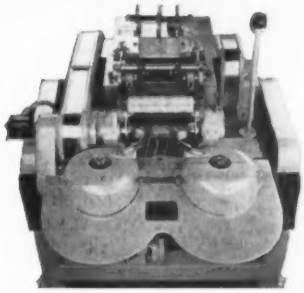


IT'S AN OPEN SECRET WHY YOU GET MORE FOR YOUR DOLLAR IN A HOLDSWORTH GILL REDUCER





Once you have seen a Holdsworth Gill Reducer in action and talked with its operator you will know the secret. You get two deliveries while investing in only one head and it's an exceptionally good head too! Precision screws are cut from solid bars of steel; Holdsworth fallers have their ends butt-welded to solid steel middles drilled for round pins; the screws are pretimed at the factory and remain that way when the head is opened for cleaning or faller replacement. There is no danger of jamming or the necessity of retiming when the head is again closed. The entire machine is well designed, sturdily constructed for long service, high production, low maintenance and easy operation. May we send you more information about its application to the abbreviated system?

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WOOL WASHER

May we send you full production data and specifications?

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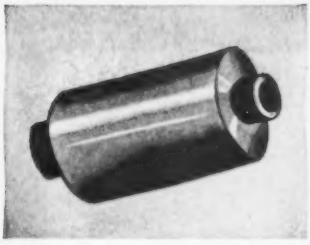
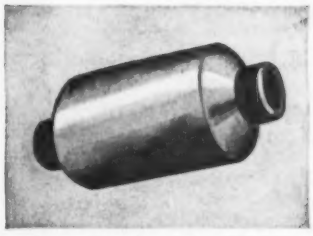
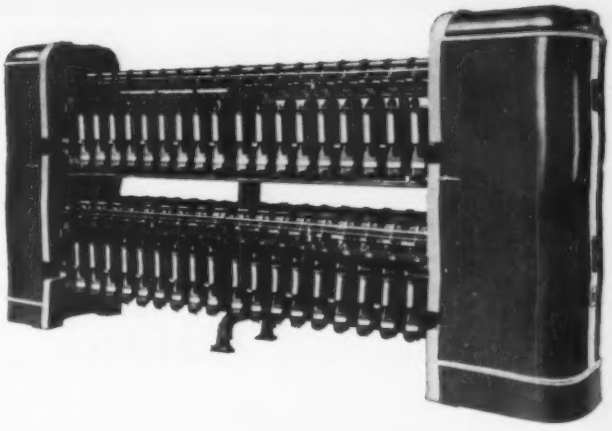


PERFECT PARALLEL CHEESES



(tapered ends if desired) *OR*

DOUBLE FLANGED BOBBINS WOUND on the PLATT MU-1



PLATT'S NEW MU-1

Light Package UPTWISTER

U. S. AND OTHER PATENTS APPLIED FOR

HERE is a brand new uptwister, simplified for easier maintenance, streamlined for higher speeds. The new Platt MU 1 Uptwister, for cheeses or double flanged bobbins, has the design rigidity that allows you to safely push production and the beautiful machining of moving parts that permits these continual high speeds. The patented, flexibly-mounted, roller bearing spindles with swivel-mounted toggle and patented automatic quick brake, allows speeds up to 15,000 r.p.m. with utmost stability and low power consumption. The Platt MU 1 is a double deck machine, each tier driven by separate motors. The top tier being narrower than the bottom, allows an unrestricted view of all packages. Every vital part is automatically lubricated, from traverse gears to twisting gears. Would you like a twenty-page, full color booklet with seven pages of cut-away illustrations of this radically new twister? Write Atkinson, Haserick & Co.

FEATURES

Quiet operation . . . Takes wide range of yarns . . . Builds packages up to 16 ozs. . . . Central pressure lubrication at twist gear end . . . Package cradles independently mounted . . . Bottom row of spindles swung in-out by foot . . . Automatic lubrication of traverse gears . . . Winding angle easily changed . . . Minimum dwell at stroke end . . . Doff taper cheeses without stopping.

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* * *

Your Socony-Vacuum Representative will recommend the most suitable oil—both as to performance and price—for your particular operation. Call him today.

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TRITON X-100

speeds your processing from gray to finish

Makes water wetter —so it penetrates better

TRITON X-100 is a concentrated 100% active penetrant and detergent, non-ionic, and alkali-and-acid stable. As a scouring agent for wool, cotton and synthetic fibres, it is a fast wetter, an excellent detergent and an outstanding emulsifier for oil and grease. And in dyeing and finishing too, it speeds processing and cuts costs. Be wise and thrifty. Send for full details of TRITON X-100 today.

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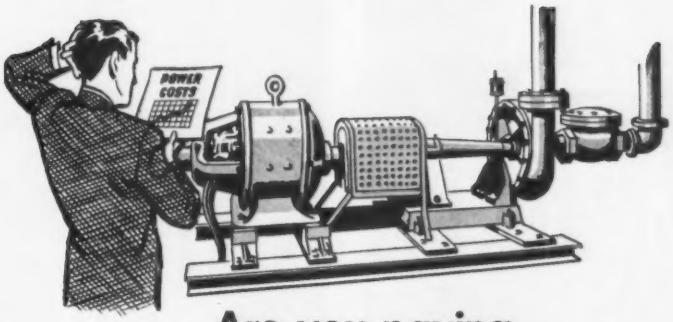

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OLD-AGE COMPENSATION

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Check these three factors and see how much you can save by replacing outdated pumping equipment!

✔ CHECK YOUR POWER COSTS

and compare the efficiency and power requirements of your old pumps with those of modern I-R pumps. You may be amazed at how much you can save in power alone by replacing obsolete pumping equipment with today's more efficient I-R pumps. When one company recently replaced two old units with new I-R pumps the power bill dropped immediately from $1100 to $800 a month—*a saving of $3600 a year in power consumption alone.*

✔ CHECK YOUR MAINTENANCE COSTS

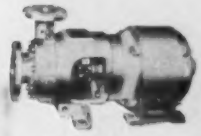
and see just how much it's costing you in both time and new parts to keep your old out-of-date pumps in operating condition. Today, lower maintenance is more important than ever before when it comes to keeping down your operating costs. And you'll find that *ease of maintenance—and less of it*—is inherent in the design and construction of I-R pumps. That's why they'll make such a big difference in your pump maintenance costs.

✔ CHECK YOUR PRODUCTION CHARTS

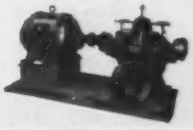
—They'll show you if your operations have lagged because of excessive "down time" brought on by pumps that can no longer keep pace with the modern high-speed processes of today. A higher availability status for your pumping equipment means higher production. You can depend on I-R pumps for continuous service because they're job engineered, *with design, construction, and materials to meet each specific application.*

Your nearest Ingersoll-Rand engineer will be glad to make a study of your present pumping equipment. He can help you determine if you have any pumps in service that can profitably be replaced by more modern, efficient I-R units.

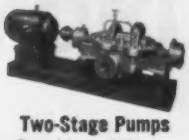
There's a COST-SAVING I-R PUMP for every liquid-handling job!



Motorpumps
Capacities to 1800 gpm
Pressures to 260 psi



Single-Stage Pumps
Capacities to 50,000 gpm
Pressures to 150 psi



Two-Stage Pumps
Capacities to 2200 gpm
Pressures to 450 psi

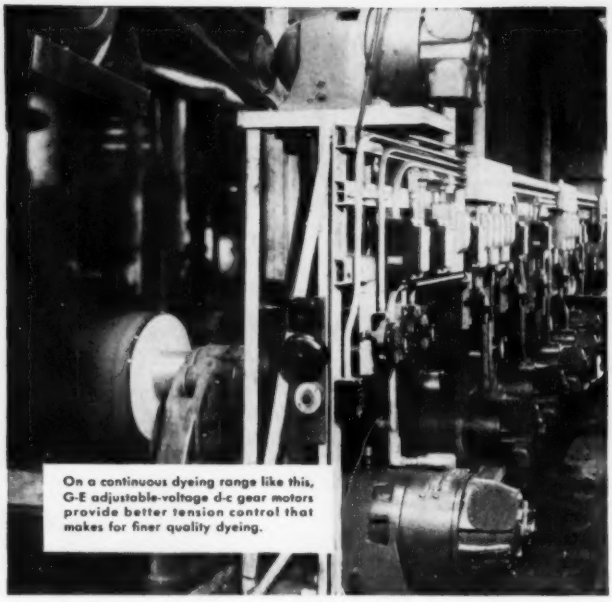
Multi-Stage Pumps
Capacities to 3000 gpm
Pressures to 3000 psi

Vertical Pumps
Capacities to 80,000 gpm
Pressures to 1500 psi

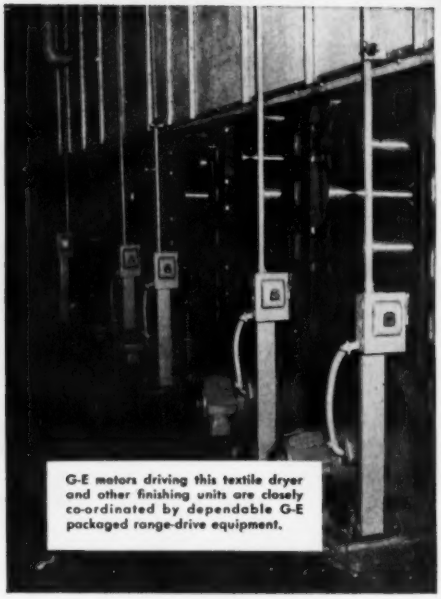
Ingersoll-Rand
Cameron Pump Division
11 BROADWAY, NEW YORK 4, N.Y.

COMPRESSORS • AIR TOOLS • ROCK DRILLS • TURBO BLOWERS • CONDENSERS
CENTRIFUGAL PUMPS • OIL AND GAS ENGINES

532-10



On a continuous dyeing range like this, G-E adjustable-voltage d-c gear motors provide better tension control that makes for finer quality dyeing.



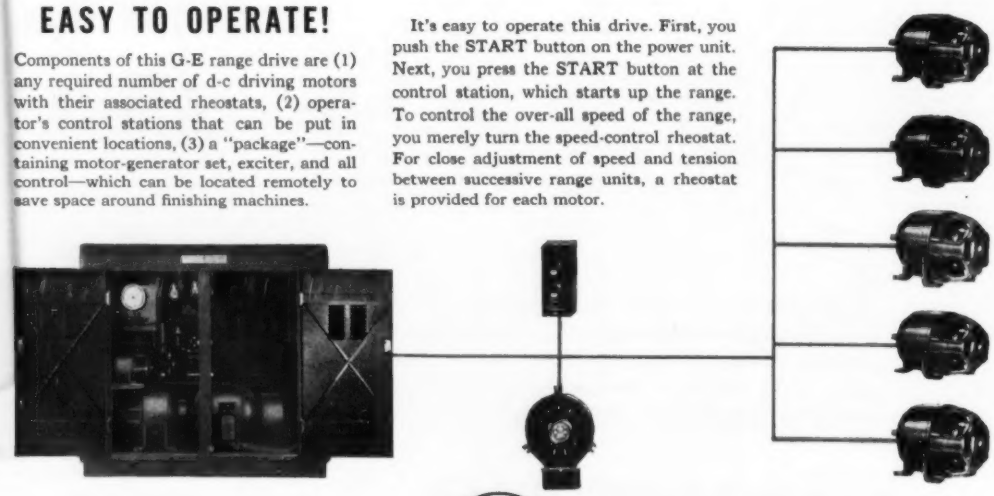
G-E motors driving this textile dryer and other finishing units are closely co-ordinated by dependable G-E packaged range-drive equipment.

Now—a Packaged

EASY TO OPERATE!

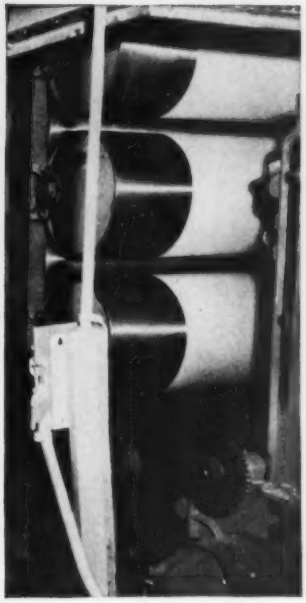
Components of this G-E range drive are (1) any required number of d-c driving motors with their associated rheostats, (2) operator's control stations that can be put in convenient locations, (3) a "package"—containing motor-generator set, exciter, and all control—which can be located remotely to save space around finishing machines.

It's easy to operate this drive. First, you push the START button on the power unit. Next, you press the START button at the control station, which starts up the range. To control the over-all speed of the range, you merely turn the speed-control rheostat. For close adjustment of speed and tension between successive range units, a rheostat is provided for each motor.



GENERAL ELECTRIC

654-16



This three-compartment washer—one unit in a mercerizing range—is driven by G-E motors with over-all speed controlled from central operating stations.

G-E Range Drive

that lowers your installed cost —gives greater layout flexibility!

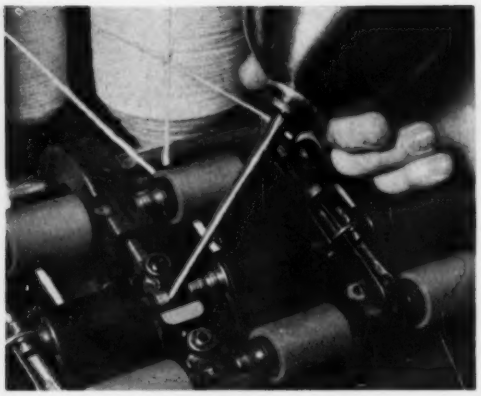
Range Drives FOR TEXTILE MILLS

See "Textiles Unlimited," G-E's full-color sound movie on how textile mills are modernizing. Your G-E representative will gladly arrange a showing of this More Power to America presentation.

Here's a range drive that gives you all the advantages of the widely used adjustable-voltage d-c system of speed control—brought to you by General Electric in a mass-produced "package" of standardized parts. Now you get lower installed cost, simplified installation, and greater ease in making plant-layout changes in addition to these other important advantages:

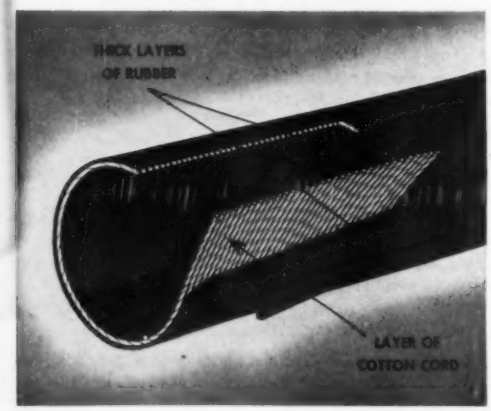
- Any desired speed range and jogging speed.
- Easy control of over-all speed from a central location.
- Close co-ordination of speed of all motors by means of compensating gates or "soft" motors.
- Flexibility of operation because it permits individual units to be disconnected from the range.
- Dynamic braking for quick stopping, and regenerative braking for controlled deceleration, available if required.
- Maximum reliability and minimum maintenance with a simple, sturdy G-E motor at each drive unit.

If you're planning to install a complete new range, ask your machinery manufacturer about this G-E packaged multi-motor drive. If you're extending or modernizing an existing range, call in your local G-E textile-mill specialist on your drive problems. *Apparatus Dept., General Electric Co., Schenectady 5, N. Y.*

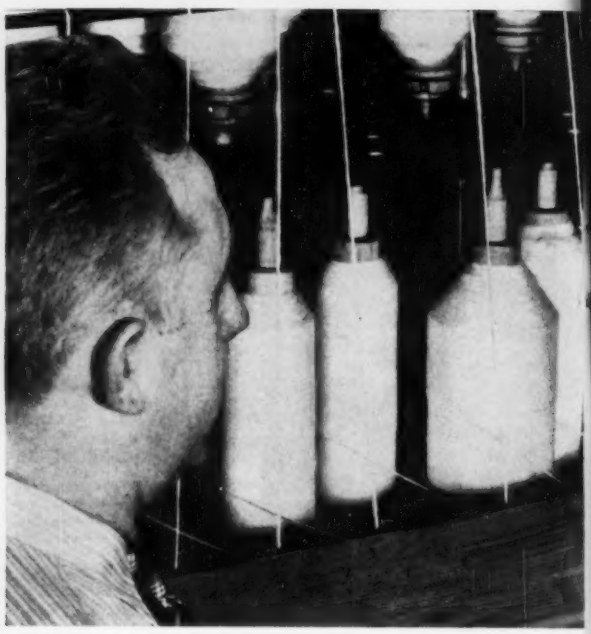


UNAFFECTED BY OIL, TEMPERATURE, OR HUMIDITY. Oils, dyes, and solvents normally used in the textile industry have no effect on Accotex Aprons. They won't sweat or become brittle.

SUPERIOR FLEX LIFE. Made of a non-oxidizing synthetic rubber, Armstrong's Accotex Aprons always retain their rubbery resilience. Year after year, they run smoothly over the nose bar.



BUILT-IN CORD LINER. A sturdy cord interliner vulcanized in the apron. (a feature developed and patented by Armstrong) prevents premature apron failure caused by stretching.



"Six years' report

Virtually no maintenance required for these clean-running, stretch-proof aprons

service from these aprons," many mill men... here's why

Many mill men tell us they have been able to cut apron replacements more than one-half since they switched to Armstrong's Accotex® Aprons. They find Accotex Aprons give them five to six years' continuous, trouble-free service on most frames. Some mills have gotten as many as eight years of continuous service.

One reason for this remarkable performance record is found in the construction of Accotex Aprons . . . a patented development of Armstrong's Textile Laboratories. The other reason is the way in which Accotex rubber is compounded to meet the requirements of apron service.

As you can see in the picture at bottom left, Accotex Aprons are made like a sandwich. The bottom or inner layer is a seamless tube of rubber. During six years of normal 2-shift operation, it runs over the nose bar more than ten million times! Yet, Accotex Aprons stand up because this tough rubber is especially compounded to resist that abrasion.

The outer or drafting surface is another tube of seamless Accotex rubber treated so that it won't crack, roughen, or harden with age. A stretch-proof cord interliner is vulcanized between the two layers of rubber. This interliner absolutely prevents stretching or curled edges.

If you are interested in cutting replacement costs, try a test installation of Armstrong's Accotex Aprons in your mill. Call your Armstrong representative or write Armstrong Cork Company, Textile Products Department, 8302 Arch Street, Lancaster, Pennsylvania. Armstrong's Accotex Aprons are available for export sale.

ARMSTRONG'S ACCOTEX APRONS

You saw them at Atlantic City...

The New
MODEL "L" CARD
with
SYNCHRONOUS DRIVE
for
WOOL and SYNTHETIC FIBRES

The New
SIMPLEX MODEL "F"
WOOLEN SPINNING FRAME
with
FLUID DRIVE
and
ANTI-FRICTION SPINDLES

The New
ELECTRO-PNEUMATIC WARP SPOOLER
with
MAGAZINE CREEL
for
HIGH PRODUCTION—LOW COST
WARP SPOOLING

The New
CONCEPT IN CARDING THEORY
Based on a new type of card clothing and a plan for its use.

We were pleased to have so many visitors at the American Textile Machinery Exhibition. We believe that you enjoyed the show and that you gained a lot of valuable ideas for your mill.

We urge you to put your ideas to work without delay.

Don't hide them away in a dark corner of your mind with a vague promise to do something about it someday.

Do it now! Turn your ideas to profit!

We tried to answer all of your questions at Atlantic City but in the rush, perhaps, you didn't complete the information that you wanted. Or perhaps a new idea has occurred to you.

In any case, write to us today, so that we can fill in the details that you need.

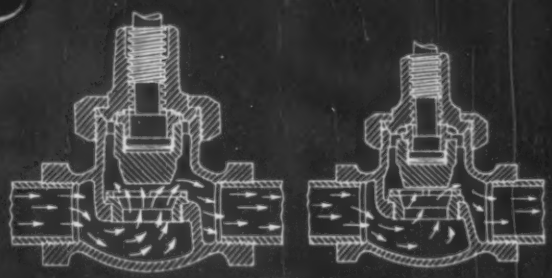
Address your letter direct to our company and it will be routed to the person best qualified to answer your questions. In this way you will be sure of a prompt reply by personal letter and any literature we have dealing with the subject.

Do it now !!

since 1832

NORTH ANDOVER, MASS.
CHARLOTTE, N. C.
U. S. A.

POWELL gives you *Full Flow* in a Throttling Valve



COMPARE
the flow characteristics of the new Powell "W.S." Valve (left) and the ordinary globe valve (right). Note the extra large opening through the seat (nominal pipe size) and the greatly increased lift of disc, when wide open.

This is actually a dual service valve in that it can be throttled to any desired degree, yet, when wide open, permits FULL FLOW through the body. Thus turbulence and pressure drop are reduced to a minimum—a triumph in engineering that exemplifies Powell's continual leadership in the field of industrial valve design.

Powell "W. S."
Bronze Globe Valve
Fig. 2608

Write for folder giving full description of the many advanced engineering features of this valve.

POWELL

The WM. POWELL CO., 2525 Spring Grove Ave., P. O. Box 106, Station B, Cincinnati 22, Ohio

PERKINS
HOLYOKE
Perkins Calender Rolls—the natural result of the longest and broadest experience in the industry—give quality that is definitely reflected in your product. Perkins service includes refills of any make of calender rolls.
B. F. PERKINS & SON, Inc.
HOLYOKE, MASS., U.S.A.
LARGEST MANUFACTURERS OF CALENDER ROLLS IN THE WORLD

Rapidogens® for printing

fast colors on cotton, rayon and linen

brilliant colors outstanding for clarity and depth.

extensive color range many important shades are exclusively GDC.

fastness excellent fastness to washing—very good fastness to light.

powders and solutions both forms are available.

application develop rapidly in acid ageing—many can be developed in neutral ageing.

versatility can be printed alongside Indanthrenes and Algosols.

economy combine quality with ease of application.

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Inquiries as to our services solicited

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IS A SYMBOL OF THE HIGH EFFICIENCY OF GERMAN MAKERS OF TEXTILE MACHINERY IN THE FIELDS OF

SPINNING
WEAVING FINISHING

DECADES OF EXPERIENCE AND THE COOPERATION OF LEADING GERMAN MACHINE MAKERS ENABLE US TO PLAN AND ERECT COMPLETE TEXTILE PLANTS

THE REPUTATION AND SYMBOL OF OUR WORKS GUARANTEE DESIGN AND CONSTRUCTION ON THE VERY LATEST LINES AND MAXIMUM EFFICIENCY

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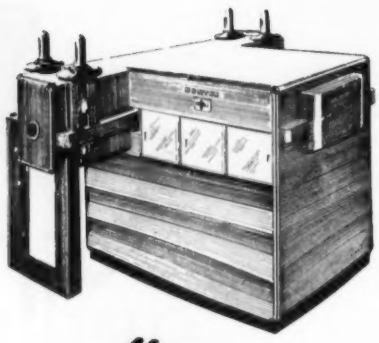
TEXTILMASCHINEN-UNION G.M.B.H.

FRANKFURT-MAIN

Friedrich Ebert-Str. 22 Germany Telephone 41512



NEW HUNTER
FLEXREEL WASHER

your specific questions will get specific answers

What can the NEW "*Flexreel*" Washer do for you? It can reduce your costs by speeding output . . . it can improve the quality of your goods! We know this, and have proved it, but the way we have solved the other fellow's problem, may not apply specifically to you. We therefore solicit your questions on just what the "*Flexreel*" can do as far as speed and quality are concerned in your own plant on your own fabrics.

The "*Flexreel*" is unsurpassed for scouring rope and open width fabrics. It may be used for caustic and peroxide washing, desizing, print and grey washing, rinsing after resin treatment, neutralizing, etc. Write us, giving your requirements and ask for the New "*Flexreel*" Bulletin.

A Hunter field engineer near you is fully trained and qualified to make recommendations for increasing your production and lowering your costs. These recommendations may include new equipment, rearrangement of existing equipment, or the introduction of the latest processing techniques. If new Hunter machines are necessary, you will be able to predetermine your savings before an investment is made.

D. L. Raedel, 1936 West Lake Street, Chicago, Ill.
S. Alex Dalghren, Ivyland, Bucks County, Pa.
J. Everett Burdick, Grayson Lane, Newton Lower Falls, Mass.
E. G. Paules, 1762 West Vernon Avenue, Los Angeles, Calif.
Rudel Machinery Company, Ltd., Canada
Carl Endlein, 1734 Candler Building, Atlanta 3, Georgia

Hunter

JAMES HUNTER MACHINE CO., NORTH ADAMS, MASS. FOUNDED 1847

call National Aniline now for formulas and colors on

OLIVE GREEN #107
(cotton)

OLIVE GREEN #108
(wool)

National Technical Service can give you immediate assistance on the National Dyes to meet the special requirements of the Quartermaster Corps on these new colors.

For prompt service on the formulas and dyes you will need on military orders, write, wire or phone our nearest office.

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Gee, am I popular? . . . everybody's after my money!

Yes, everybody (and his brother) is competing for her clothes-allowance

. . . and Competition begins in the Weaveroom!

She's a tough customer, and getting tougher all the time. She knows how to get the last whisper of quality to the last fraction of a cent. And she shops till she gets it!

So it's no happenstance that the major part of her wardrobe is cut from cloth woven in mills equipped with modern, high-speed, automatic C&K Call Box Looms.

For C&K Call Box Looms are quickly convertible and widely adaptable to meet her fast-changing whims. They weave high-quality fabrics at low cost . . . and in quantities that pay profits in any price-situation.

Yes, a modern C&K Weaveroom . . . kept at top operating efficiency with Certified C&K Loom Parts . . . *is a successfully competitive weaveroom.*

This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

Crompton & Knowles LOOM WORKS

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The chemical structure shown at left framing the trees represents cellulose in the language of chemistry. Most of the highly purified cellulose used in this country is derived from wood.

RAYONIER RESEARCH
in cellulose chemistry has made
a major contribution to the rapid growth
of the chemical textile fiber industry.

The basic raw material used in the
manufacture of viscose rayon and acetate yarn
and staple fiber is highly purified
wood cellulose derived by chemically processing trees.

Our research efforts over a period of years
have resulted in production of a number of types
of purified wood cellulose specially developed
to provide superior characteristics required by our customers
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EXECUTIVE OFFICES: *122 East 42nd Street, New York 17, N. Y.* - MILLS: *Hoquiam, Port Angeles, Shelton, Wash.; Fernandina, Fla.*

 For more information, write direct or use Reader Service post card.

...the most delicate fabrics

The inside of the "Whirlwind's" basket is absolutely smooth. From top to bottom, there are no rivets, no flanges or other projections. So, even the sheerest fabrics can be handled safely. Yet the "Whirlwind" is rugged in construction.

Fast acceleration, quick stopping, easy loading and unloading, all combine with highest running speeds (up to 1200 R.P.M.) to provide greatest production, per batch, per hour, per day.

Fletcher
"WHIRLWIND" EXTRACTOR

6 BIG "WHIRLWIND" FEATURES

- Easier and faster loading and unloading
- Smooth, rapid acceleration to reach maximum speed and efficiency
- Highest running speed — thorough extraction
- Automatic hydraulic brake with Finger Tip Control for smooth, safe stops
- Rugged construction to take hard service with minimum maintenance and repair
- Greater Stability; effective self-balancing.

Send for complete descriptive bulletin

FLETCHER WORKS

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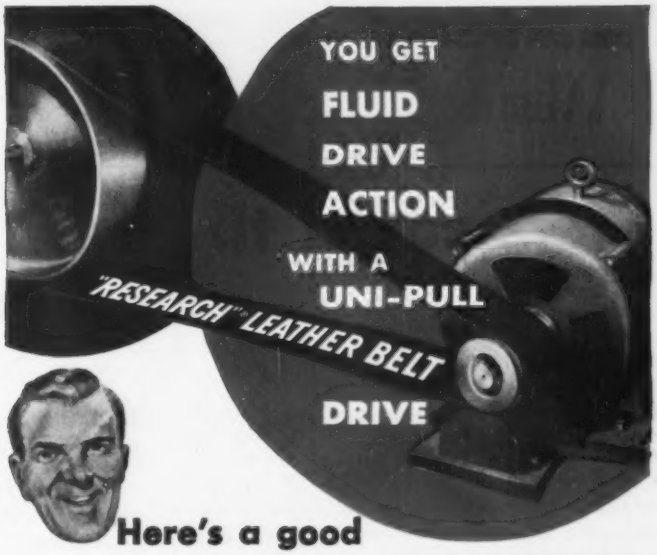


Here's a good example of Graton & Knight **Engineered** Flat Leather Belting

Success of your short center pivoted motor base drives depends on the FLUID DRIVE ACTION of the belts you use. They should possess these five quality features:

1. *High Coefficient of Friction* — to grip *across and around* the pulleys.
2. *Flexibility* — to withstand continuous flexing on short centers over small diameter pulleys.
3. *Resiliency*—to absorb starting torque and load shock.
4. *Minimum Permanent Stretch* — to maintain correct tension at all times.
5. *Great Tensile Strength* — to carry peak loads.

These five quality features describe RESEARCH, the premium quality flat leather belt made by a special process to give you FLUID DRIVE ACTION on Uni-Pull and other important drives. It is one example of G&K Leather Belting *engineered* to give more production-power.

Other famous G&K brands, developed through a century of service to industry, include HEART OAK, a rugged, firm belt for shifters and step-cone pulleys; and SPARTAN,® a combination tan resistant to oil, steam, acid and alkali fumes . . .

Let the G&K man help you *"drive it better with leather."*

GRATON & KNIGHT COMPANY
Worcester, Massachusetts

To assist you in engineering a short center drive, be sure to get a free copy of the new Uni-Pull Drive Manual. Write for it on your letterhead.

. . . and I can show you equally good examples of Graton & Knight Engineered Textile Leathers that stop kinky filling cut shuttle cost reduce bang-off on my Looms

PREMIUM RESEARCH QUALITY

HEART OAK

SPARTAN

YOU CAN DRIVE IT BETTER WITH LEATHER*

GRATON AND KNIGHT® *Engineered* LEATHER BELTING

 For more information, write direct or use Reader Service post card.

YOU CAN BE SURE.. IF IT'S

Westinghouse

could this be your card room?

Does your card room still look like this? If so, consider the benefits of modernizing. With a Westinghouse individual drive on each card you do away with line-shaft drives and all their costly problems. There's no more shaft bearing maintenance, no messy lubrication. No long belts to stir up lint, increase static, endanger workers. You eliminate power waste in belt slippage, bearing friction. The whole line isn't down when one card needs service. Cards start easier, speed is more uniform, over-all productivity goes up.

Your Choice of Three Drives

Three *service-proved* Westinghouse card drives make these improvements possible. Each drive has advantages to meet your particular needs. Each consists of the Westinghouse card controller, designed specifically for card service, and one of three types of Westinghouse card motors. Two of these motors drive through chain or belt speed reducers while the third type, the Westinghouse gearmotor, combines motor and speed reducer in one factory co-ordinated unit!

High Starting Torque

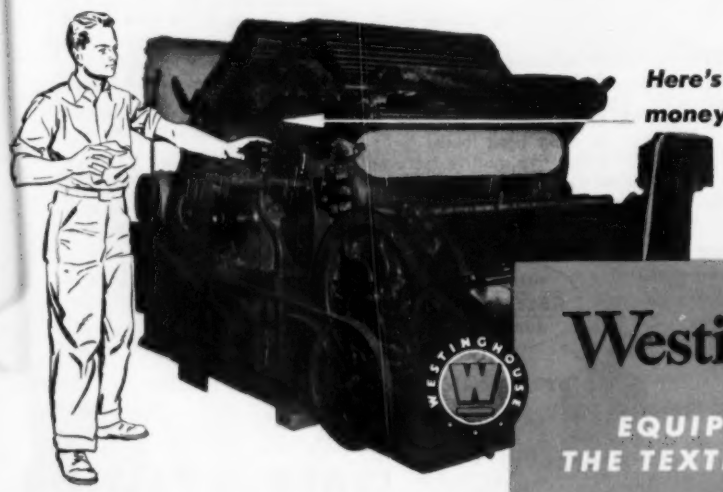
All three card motors have the high starting torque needed to overcome the card inertia and bring it swiftly and smoothly to running speed. These motors have pre-lubricated, factory-sealed bearings. *They need no lubrication and injurious dirt can't get in.*

Special Card Motor Controller

The controller is specially built for card service. To prevent accidental card reversal, the reversing switch is *inside* the controller—and the controller door *cannot be opened* while the card is operating. The enclosure is the NEMA IA gasketed-type to keep lint from the mechanism. Moreover, this enclosure is bonderized for high rust resistance, an exclusive Westinghouse feature.

Check over operating and maintenance costs in your card room. Then call your Westinghouse office for more information on Westinghouse Card Drives or write for folder B-4596. You'll find you can make *major savings* in your operation. Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Penna.

J-94841

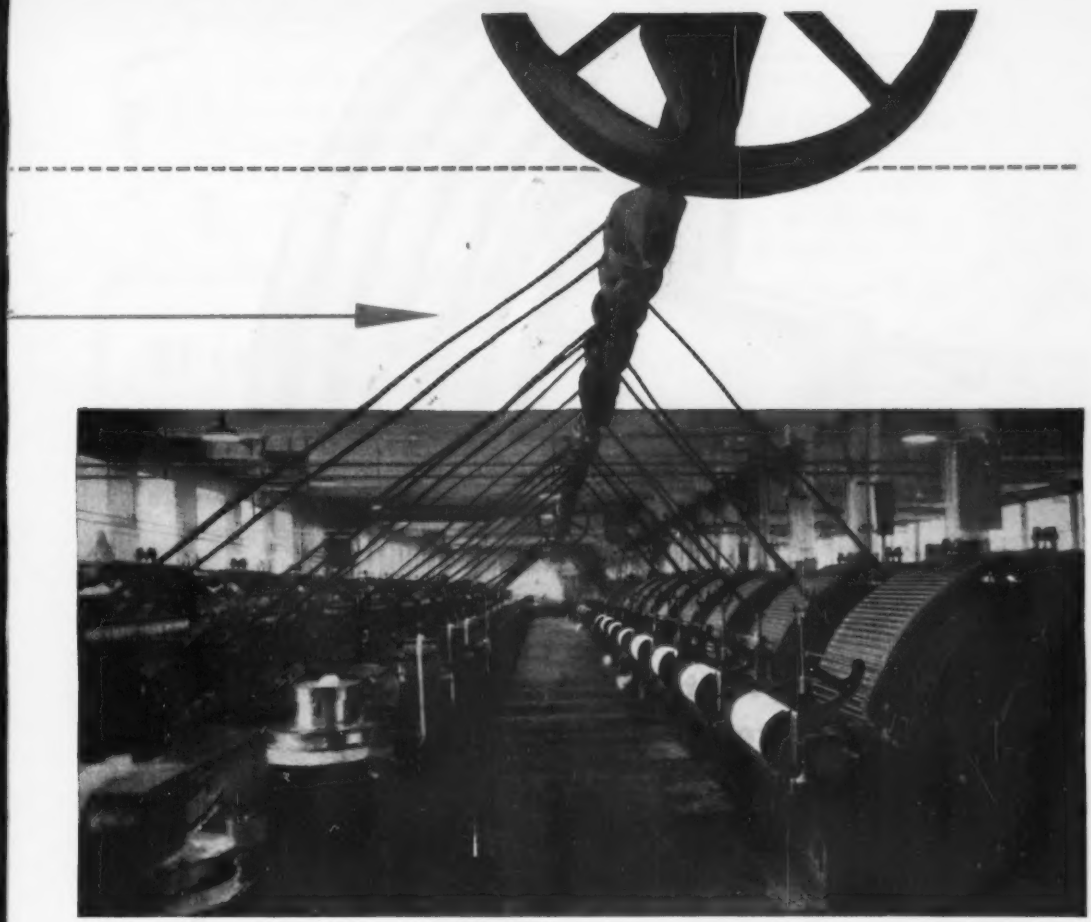


Here's the modern money-saving way!

Westinghouse

EQUIPMENT FOR THE TEXTILE INDUSTRY

For more information, write direct or use Reader Service post card.

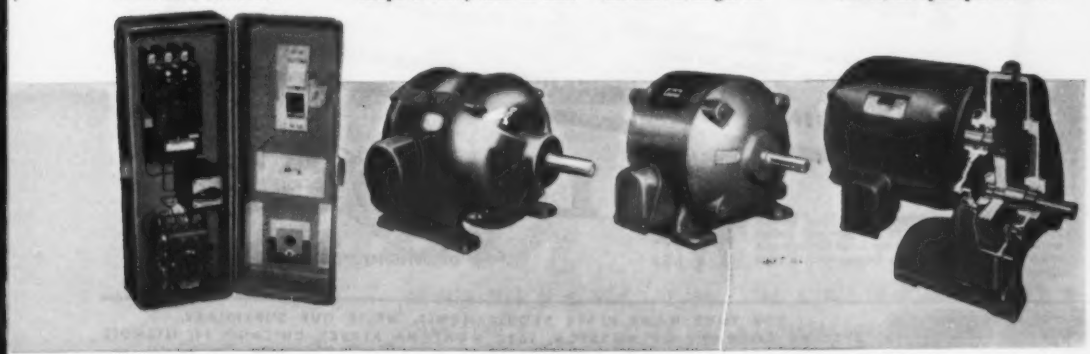


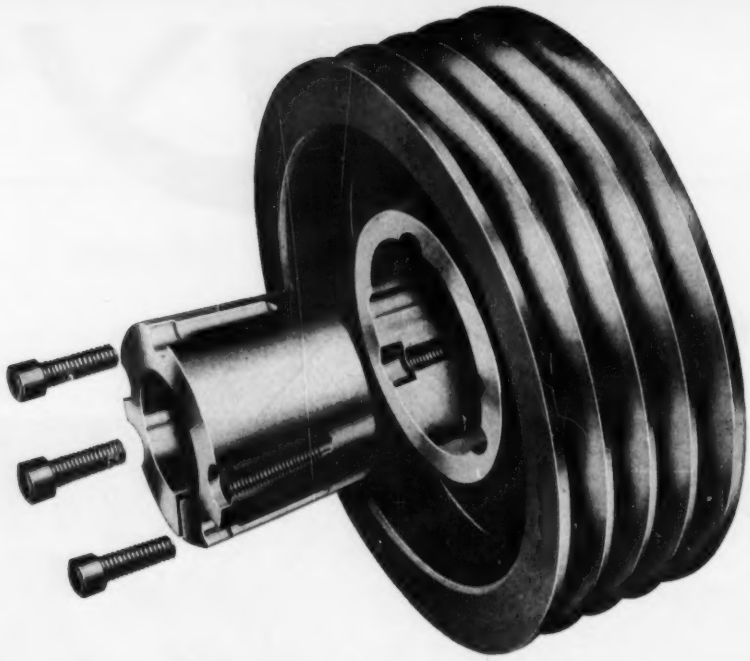
Special Card Controller
—with tamper-proof reversing switch, built-in circuit breaker, "De-ion" arc quenchers, Bonderized enclosure.

Lint-Free Motor Drive
—making fine production records in many mills. An air blast through the motor keeps it *really* free of lint.

Totally-Enclosed Motor
—*two inches shorter* than conventional motors to give you extra aisle space. And lint can't even get in!

Westinghouse Gearmotor
—the *ultimate* in card drives. Motor and speed reducer *in one unit*. No belt maintenance, less upkeep all around.





This is the sheave that's being used to *modernize* mill drives. Proved in over 3/4 million installations!

TAPER-LOCK

1 No flange. No collar. It's different.

2 Easy on — easy off.

3 Just tighten the screws that wedge the bushing. Simple, isn't it?

4 Always a perfect fit on shaft — tight as "shrunk-on."

5 Complete range of sizes. A, B, C and D grooves, in stock.

6 Try it—and you'll standardize on it!

DODGE MANUFACTURING CORPORATION • MISHAWAKA, INDIANA

CALL THE TRANSMISSIONEER, your local Dodge Distributor, for information on new and better methods of transmitting power. Look for his name under "Power Transmission Equipment" in your classified telephone book.

DODGE
of Mishawaka, Ind.

[redacted]

FOR YOUR NAME PLATE REQUIREMENTS, WRITE OUR SUBSIDIARY, ETCHING COMPANY OF AMERICA, 1520 MONTANA STREET, CHICAGO 14, ILLINOIS

For more information, write direct or use Reader Service post card.

Manufacturing says:

"I'VE BEEN HEARING A LOT ABOUT THE NEW WHITIN METHOD OF PROCESSING WORSTED, WORSTED BLENDS AND SYNTHETICS!"

Management says.

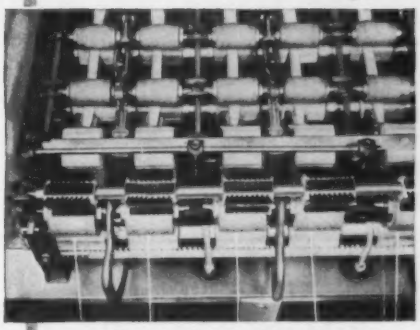
"THEY SAY IT REDUCES MACHINE INVESTMENT... NOT SO MANY MACHINES NEEDED... SAVES SPACE, TOO. BETTER LOOK INTO IT TODAY!"

Of course, they're both talking about the AMERICAN SYSTEM

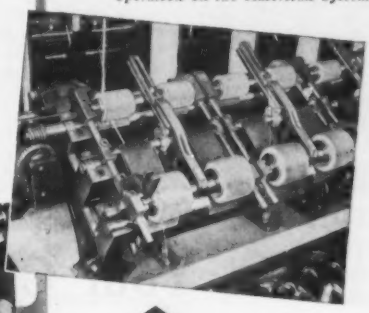
From both manufacturing and management viewpoints, the Whitin-developed American System for processing worsted, worsted blends and synthetics has much to recommend it. It is a very flexible, economical and efficient system for producing quality yarns . . . a system that permits a sharp reduction in the number of processes required—sometimes as much as 50 per cent—with a consequent reduction in the number of machines required. It is designed to process fibers from 1½ inch staple up to 4½ inch staple and worsted counts up to and including 40's.

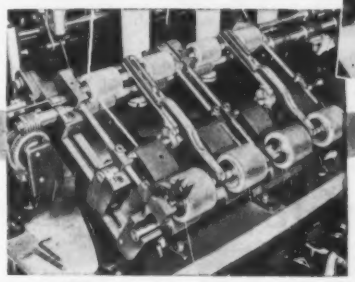
The American System can be readily supplied on new equipment. It can also be applied to both roving and spinning frames as a changeover on most American-made machines.

Whether as new equipment or as changeovers, the American System permits material reduction in machine investment, saves floor space, and cuts operating costs.



Close-up of Super-Draft Roving frame showing bottom rolls, top rolls, back bars, aprons, cradles, etc., as assembled for operation on the American System.





1

2

Close-up of Spinning frame bottom rolls, top rolls, back bars, aprons, cradles, etc., showing rolls set to

1. *Close setting for shorter staple lengths*
2. *Open setting for longer staple lengths*

Write today for illustrated folder giving complete information about the American System.

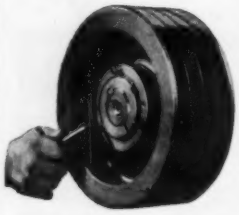
Whitin MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

EVERYTHING You Need

MAGIC-GRIP SHEAVES

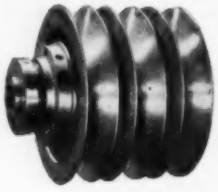


Fastest mounting sheave you can buy. Semi-steel sheave with interchangeable tapered split bushing. Aligns easily... cannot shake loose. Available as companion sheave for wide range belts. All sizes in stock.

VARI-PITCH STANDARD SHEAVES

Speed range of 9% to 28% on drives of one to 300 horsepower, using A, B, C, D, or E, belts. Two to 10 grooves. These sheaves are available in motion control or stationary control types.

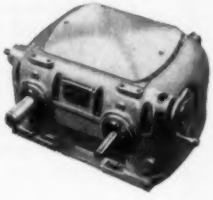
VARI-PITCH AUTOMATIC SHEAVES



Offers stepless speed control... one to 40 hp. Speed range up to 2 to 1. Simply move motor forward to increase speed, and move motor back to decrease. One hand does it while motor is running.

VARI-PITCH SPEED CHANGERS

You get smooth, accurate speed control at the turn of a hand wheel. You operate your machines at exactly the right speed for highest production. Stepless speed range: 3¾ to 1. Capacity: 1½ to 75 hp.



Take Your Choice of Low Cost, Dependable, Easy-to-Regulate *Texrope* Variable Speed Drives

YOU CAN BE confident of getting the right drive from the *Texrope* line. And you are helped in your choice by experienced men who are trained to give you specialized service for textile needs. They have the added skill that comes from having more industrial V-belt installations than any other manufacturer.

As you may know, multiple V-belt drives were originated by Allis-Chalmers to meet the requirements of the textile industry.

Today you can get every V-belt drive component from the *Texrope* line: constant speed drives; standard and wide range *Vari-Pitch* drives; speed changers; motor bases; and new or replacement, long lasting *Super-7* V-belts. Allis-Chalmers, Milwaukee 1, Wis.

A-3237

Texrope, Vari-Pitch, Super-7, and Magic-Grip are Allis-Chalmers trademarks.

in V-Belt Drives!

VARI-PITCH WIDE RANGE SHEAVES

This textile mill enjoys speed flexibility at low cost. Speed range up to 2 to 1. Sheaves are built with one to four grooves for Q and R belts, fractional to 30 hp, in stationary and motion control types.

TEXROPE
Greatest Name in V-Belt Drives

SEND FOR FREE LITERATURE

Allis-Chalmers Loom Motor - - 51B7111
Texrope Drives - - - - - - 20B6051
Vari-Pitch Automatic Sheaves - - 2087223
Power Generating Equipment, Transformers, Circuit Breakers, Power Distribution Equipment - - - - 25B6150

COMPLETE SERVICE from power line to machine

Transformers

Motor Control

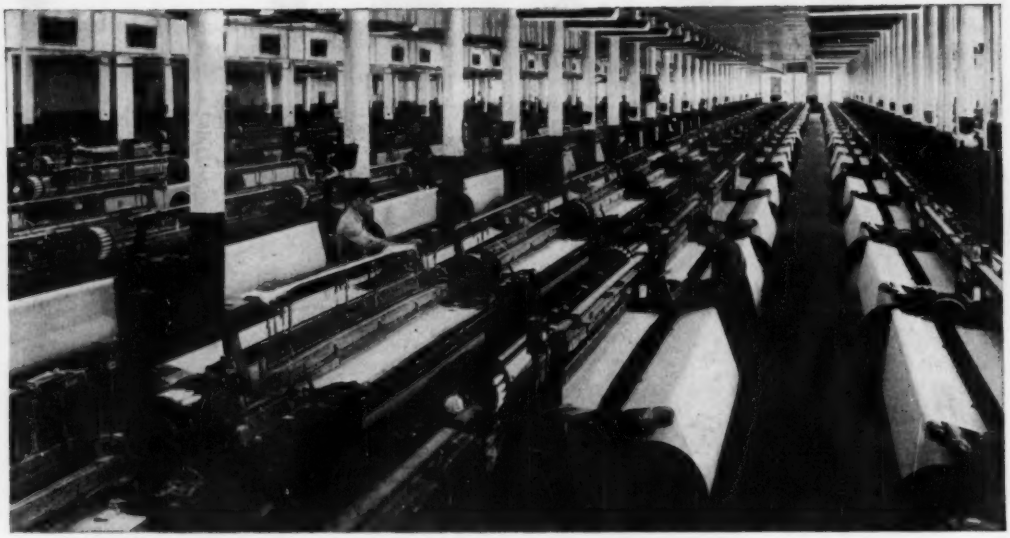
Motors

Texrope Drives

A-C ALLIS-CHALMERS

ALLIS-CHALMERS

Originator of the Multiple V-Belt Drive for the Textile Industry



They don't want us to use their name but...

They were among the first cotton mill groups to recognize the value of Carrier air conditioning.

Their first air conditioning installations were made about 1924 in two plants. Both plants were conditioned by Carrier Central Station Systems.

They increased machinery loads in 1942 and 1945 — required additional air conditioning to offset increased heat loads. They added Carrier Central Station Systems. The original systems were still operating and in excellent condition.

Again in 1945 they cooled by Carrier Central Station Systems still another mill which had previously been operating on atomizers. Existing atomizers were used in weave room combination systems for high humidities.

They use 18 Carrier Central Station Systems in these three mills. Six have been in use for over 25 years. We think that is a pretty good indication of their belief that when it comes to air conditioning your best investment is Carrier. Carrier Corporation, Syracuse, New York.

Carrier

AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

How you save time and money with

Pittsburgh CARGOTAINERS

Substitute Pittsburgh Cargotainers for your old-time handling equipment and you'll find they rapidly pay for themselves in man-hours. Cargotainers are designed to move through every mill operation without unloading and reloading. They are easily moved with lift truck or dolly — they stack or fold — and are ruggedly built for either temporary or permanent storage. Cargotainers are open-mesh so that the contents are always easily identified by color and type . . . moreover old tags and other foreign matter drop through without accumulating in the bottom. For complete information on how these patented collapsible welded-wire baskets with eight-way pallet bases can simplify your handling problem, write without obligation to Pittsburgh Steel Products Company, Department TW, Grant Building, Pittsburgh 30, Pa.

CARGOTAINERS by

Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

American Blower . . . a time-honored name in air handling

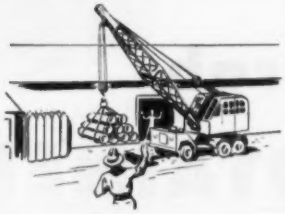
Baltimore, too, has a conveniently located American Blower Branch Office to provide you with data and equipment for air handling. You can reach American Blower in Baltimore by calling Saratoga 0448. In other cities, consult your phone book.

BETTER FABRICS . . .

Fine yarn filaments, strong plump fibers —these are the marks of a good textile mill. And, in many top mills, you'll find American Blower equipment helping in the control of inside temperature and humidity. For example, several of our large AHS Fans were ordered recently by an important Southern mill. The thing operators like about these fans is their non-overloading power characteristics and their remarkable efficiency over a wide range (which saves them money). May we help you with a similar problem?

HOSPITAL COMFORT . . .

A new Veterans' Hospital is going to be mighty comfortable—at least when it comes to ventilation. Reason—34 American Blower Sirocco Fans which were recently installed. These fans deliver more air per revolution than any other type of fan, operate at lower tip speeds, are unusually quiet, save power and require only a minimum of space for installation. For the best in air handling equipment, call American Blower.



POWER SAVER . . .

If you're concerned with power transmission, you'll want to know about our Gyrol Fluid Drives. Developed originally for use with mechanical draft fans, Gyrol Fluid Drives are today widely used in industry. They offer three important advantages—smoother acceleration, overload protection and substantial power savings. One company uses Fluid Drives on a crane that picks up acetylene tanks. Before they were installed, the tanks got such a violent swing from the quick start they would often damage building walls. Since using the Fluid Drives, they've had no trouble.

MAY WE SERVE YOU?

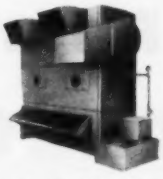
American Blower heating, cooling, drying, air conditioning and air handling equipment can do much toward improving comfort and efficiency in business. For data, phone or write our nearest branch office.

AMERICAN BLOWER CORPORATION, DETROIT 32, MICHIGAN
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO

Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

Unit Heaters

Ventura Fans



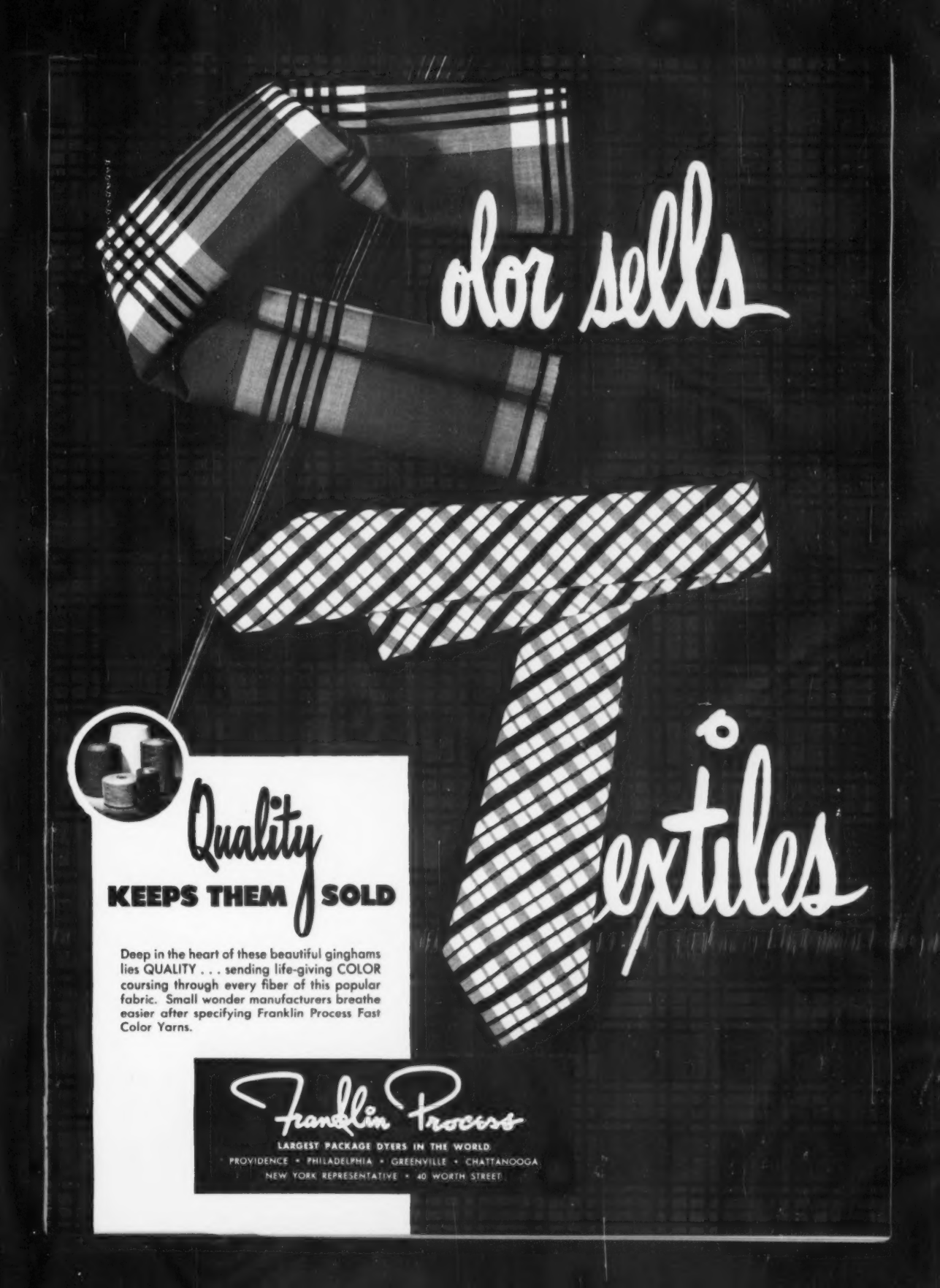
Air Conditioning Equipment

Gyrol Fluid Drives

Industrial Fans

YOUR BEST BUY AMERICAN BLOWER AIR HANDLING EQUIPMENT

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON



Quality
KEEPS THEM SOLD

Deep in the heart of these beautiful ginghams lies QUALITY . . . sending life-giving COLOR coursing through every fiber of this popular fabric. Small wonder manufacturers breathe easier after specifying Franklin Process Fast Color Yarns.

Franklin Process

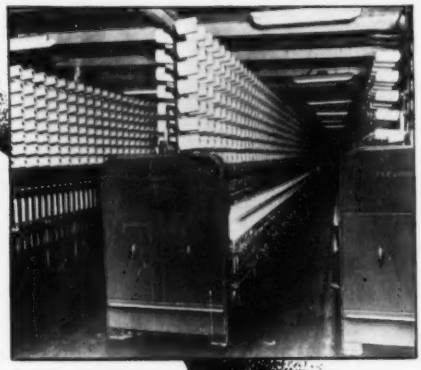
LARGEST PACKAGE DYERS IN THE WORLD

PROVIDENCE • PHILADELPHIA • GREENVILLE • CHATTANOOGA

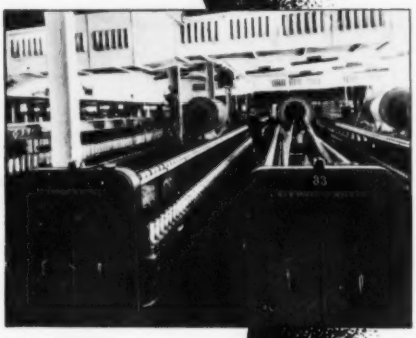
NEW YORK REPRESENTATIVE • 40 WORTH STREET

Why Mills Prefer

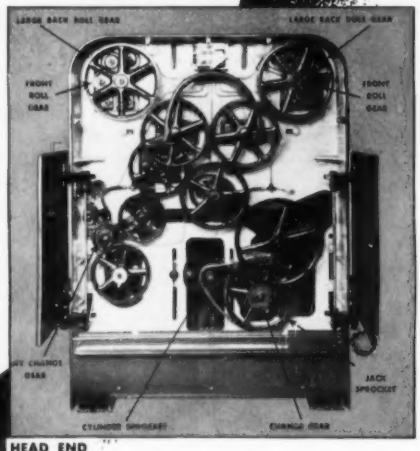
H&B TWISTERS



PACKAGE TWISTER



BEAM TWISTER



HEAD END

H & B Twisters are built ruggedly — and exactly — to exact specifications for producing high quality finished yarn with an even twist.

They deliver a firm, well-shaped package, carrying the maximum yardage permissible within the natural limits imposed by traverse and ring diameter. Whether the yarn is twisted for duck, top quality broadcloths, gabardines or sewing thread, you can count on the final quality of the twisted yarn, as well as the safety, ease and economy of operation of the machine. Among the many features that assure trouble-free run-off in subsequent yarn operations are:

1. *The ball bearing thrust washer in the builder drive that prevents dwelling at the top and bottom of the stroke and particularly aids high-speed winding.*
2. *Wet twisters are equipped with an automatic water feed control that maintains the same level in troughs, assuring even water penetration.*
3. *Replaceable bottom roll bearings to reduce maintenance cost.*

Supply packages on H & B Twisters can be beams as well as cones or tubes. Beam stands have ball bearings and a brake assembly which assures uniform and even tension let-off. Superstructure can have one or more beams. The shift to single beam operation is accomplished by moving one set of beam stands to the center position.

These and other additional efficiency features are why, when running yarn for tire cord, where perfect twist is required — most mills prefer H & B Beam Twisters.

HEAD END FEATURES:

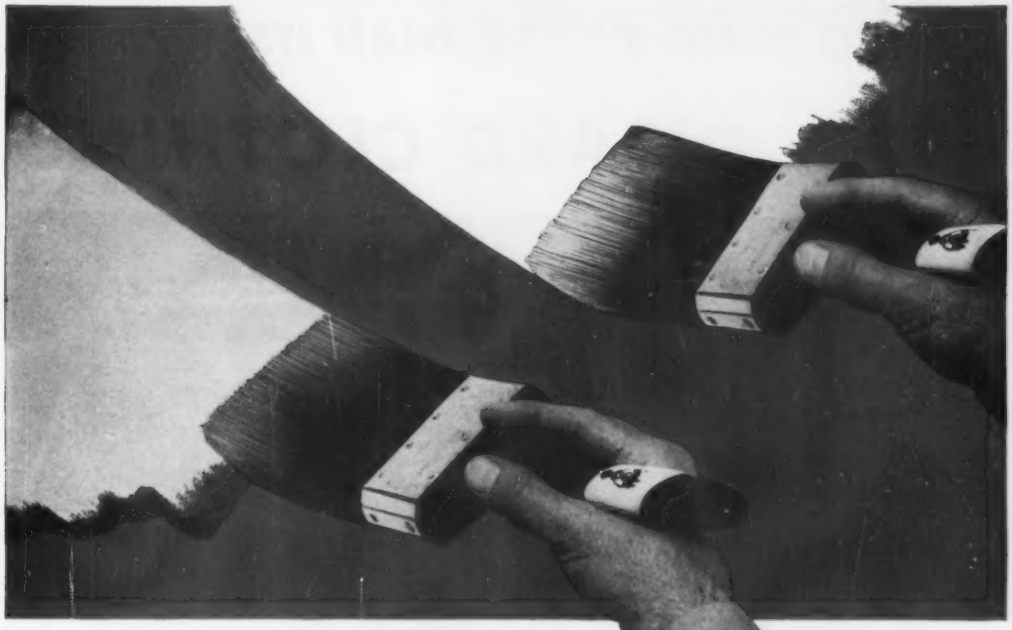
1. *All cut gears throughout.*
2. *Silent chain drive from cylinder to jack shaft.*
3. *Electric stop motion prevents starting of machine when doors are open.*
4. *Bijur lubrication system.*
5. *Doors swing open and away, making head end easily accessible for gear changes.*

Ask to have an H & B Sales Representative call with the complete story of H & B quality twisting. Contact the main or a branch office — today.

H&B AMERICAN MACHINE CO.

FACTORY, EXECUTIVE OFFICES AND EXPORT DIVISION • PAWTUCKET, R. I., U. S. A.
Branch Offices: Atlanta, Ga. — 815 Citizens and Southern National Bank Bldg.
Charlotte, N. C. — 523 West 4th Street
Greenville, S. C. — 1310-11 Woodside Bldg.

Builders of MODERN TEXTILE MACHINERY



STAYS WHITER because it STARTS WHITER!

INTERIOR SURFACES STAY CLEANER..LONGER ..WITH KEM SAVE-LITE..THE WHITER WHITE!

How long white paint *stays* white—and *how* white it stays —depends, in part, on *how white it is to start with.*

Sherwin-Williams KEM SAVE-LITE Finishes for mill interiors cut upkeep costs because their brilliant whiteness both starts higher and stays higher in light reflection value. These facts are borne out not only in laboratory tests, but in year-after-year experience in leading textile mills the country over.

Test KEM SAVE-LITE for yourself against any conventional mill white finish. See the difference—in initial whiteness—in hiding power—in greater covering capacity. Call your Sherwin-Williams representative for a demonstration, or write The Sherwin-Williams Co., Cleveland 1, Ohio. (Division offices, Charlotte, N. C. and Boston, Mass.)

Types to Meet Varying Requirements

Sherwin-Williams Save-Lite is supplied in several types to meet varying operating conditions, both in oil type (Save-Lite) and synthetic (Kem Save-Lite). Gloss finish gives extreme ease of cleaning; Eg-Shel greatest diffusion and reflection of light. Fume and moisture-resisting types give added resistance where chemical fumes, moisture and heat are encountered.

SHERWIN-WILLIAMS

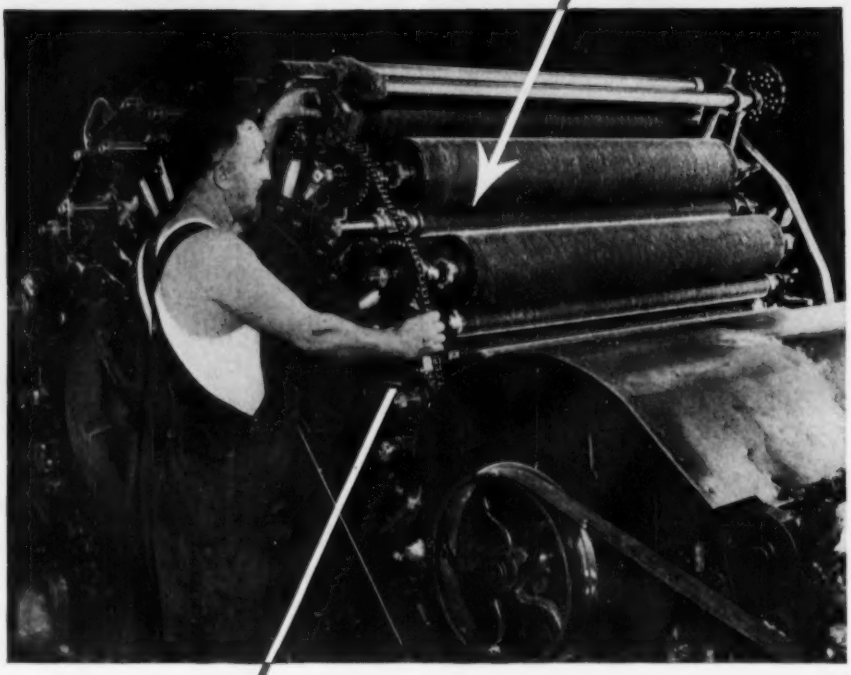
INDUSTRIAL MAINTENANCE FINISHES

SAVE-LITE MILL WHITE • COLOR HARMONY FINISHES
MILL VILLAGE PAINTS

 For more information, write direct or use Reader Service post card.

A CARD IS NO BETTER THAN ITS

CARD CLOTHING



That's why a relatively small investment in Tuffer Card Clothing gives such a handsome return. Its uniform, precise construction permits the carder to make the most of his skill and get **full production** from the carding machines.

Tuffer is the **proved** card clothing . . . proved in woolen and cotton mills throughout the industry. Specify it on your next order . . . let it prove itself on your cards.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-2

TUFFER CARD CLOTHING ***IMPROVES PRODUCTION ALL ALONG THE LINE***

An increase in spindle oil viscosity means an increase in power consumption...

Gulfspin maintains its original viscosity even after extended service

Dirt, water, and oxygen act to thicken ordinary spindle oils, appreciably increasing their viscosity during normal spinning room service. Because of this higher viscosity, an increase in frictional resistance occurs and power consumption is increased proportionately. Result: power costs that are higher than necessary.

But this is not the case in spinning rooms where Gulfspin is the spindle lubricant. Service tests demonstrate that Gulfspin does not undergo any appreciable increase in viscosity, even after extended service. Thus substantial savings in power costs are possible with this outstanding oil.

Gulfspin has many other characteristics which make it effective for spindle lubrication; it is not only resistant to the formation of sludge, but also prevents sludge from depositing on spindle shafts and bolsters—thus keeps spindles extra clean; it reduces wear because of excellent oiliness characteristics; and helps effectively to protect spindle parts against rust.

See for yourself on your frames that this new spindle oil is better in every way. Write, wire, or phone your nearest Gulf office and ask a Gulf Lubrication Engineer to call. Gulf Oil Corporation · Gulf Refining Company, Gulf Building, Pittsburgh 30, Pennsylvania.

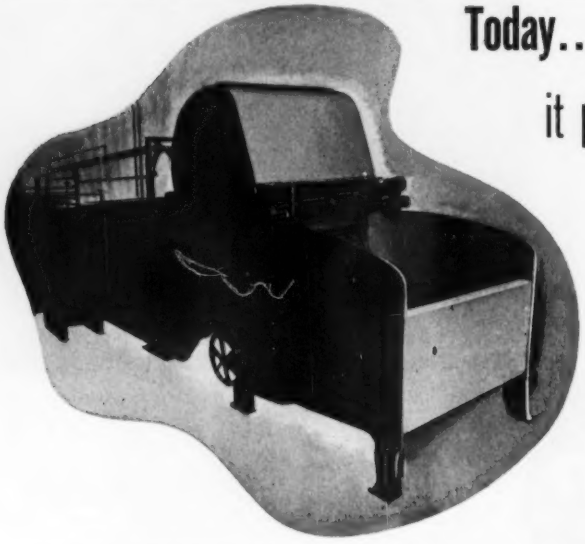
FIFTY YEARS OF SERVICE
1901 GULF 1951
PETROLEUM AND ITS PRODUCTS

MONSANTO
CHEMICALS — PLASTICS

SERVING INDUSTRY...WHICH SERVES MANKIND

TEXTILE CHEMICALS DEPARTMENT

serves you with a full-scale research and development program including chemicals for *all fibers, all fabrics.* Write Monsanto today about chemicals described below or for general information on chemicals of special use in your mill. Address: Textile Chemicals Department, Monsanto Chemical Company, Boston 49, Mass. Or, use the handy coupon on the opposite page.



Today... more than ever it pays to use Sterox 6 for wool scouring

While soap prices climb, many mills today are *slashing* wool scouring costs UP TO 50% — using a new, different detergent, Monsanto's Sterox 6.

By switching to Sterox, you use *less* detergent . . . and cut costs; you use *less* Soda Ash . . . and cut costs (see case history below) — yet you get *full* efficiency. Sterox removes grease and oil almost completely AND holds them in suspension without redeposition on the fibers.

STEROX SYSTEM		
	Sterox	Soda Ash
Amt./100 lbs. grease wool	.21 lbs.	1.56 lbs.
Price	@ .32/lb.	@ .015/lb.
Chemical Cost/ 100 lbs. grease wool	.067	.023
Total Chemical Cost 100 lbs. grease wool		.090

SOAP SYSTEM		
	Soap	Soda Ash
Amt./100 lbs. grease wool	.62 lbs.	1.88 lbs.
Price	@ .245/lb.	@ .015/lbs.
Chemical Cost/ 100 lbs. grease wool	.152	.028
Total Chemical Cost 100 lbs. grease wool		.180

For loftier wool . . . for real dollar savings in wool scouring, it'll pay YOU *to investigate Monsanto's Sterox 6 for your mill . . .* TODAY. *The coupon is for your convenience.*

Case history of a dollar doing the work of two... with Sterox 6

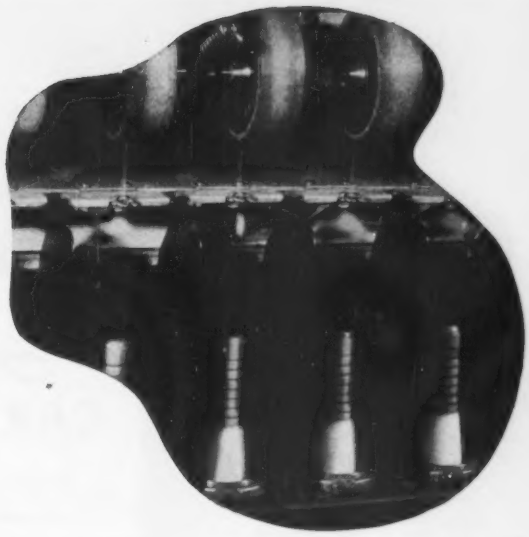
After keeping careful cost records for two weeks with soap, ... mill scoured 99,086 pounds of grease wool with Sterox 6. The wool in both test periods included 58's, 60's and No. 4's in unblended lots. Shrinkage: 30%-40%; residual grease content for both tests: 0.5% or less. Total time: 52 hours; but, during two 8-hour shifts, 20,500 lbs. per shift were scoured to check efficiency of Sterox 6 at peak loads.

Equipment and procedure: Equipment included 4-bowl trains, counterflow from #4 to #1 to centrifuge. Automatic blowdown of bowls 1 and 2. Rotameter feed of chemicals to bowls 2 and 3. *Bowls were not dumped* (liquor lost only during automatic blowdowns).

Results: Scouring cost with Sterox 6 was one-half of the scouring cost with soap. During peak loads, chemical costs were still less. Grease recovery with Sterox was comparable to that in the control test with soap.

Now use SYTON with blends

Syton Produces Greater Yarn Strength In Wool Blends



You've already found Syton, Monsanto's silica dispersion, a profit-booster in woolen and worsted spinning . . .

Now . . . mill trials prove Syton just as advantageous with blends. Smooth rayon staple behaves more like serrated wool fiber when Syton is applied to control inter-fiber slippage. And the proof is in the spinning. Sytonized wool-rayon yarn is 10%-30% stronger; and ends down are fewer—and with Syton you can spin finer counts on all blends, or use *less* twist and get equal yarn strength.

These, and other real advantages, mean *many* production savings all along the line—more profit despite rising costs. You'll want to put Syton to work for you . . . in your plant. So send the handy coupon below for full information.

For full information on Syton*, Sterox 6*, and other Monsanto textile chemicals such as Stymer*, for rayon slashing; Merlon* resins for durable finishes; Resloom*, for washability and wrinkle resistance; Sted*, for cleansing and scouring action; Catalyst AC for curing melamine and urea resin finishes; Dye fixatives; Rezgard*, fugitive-type flame retardant—check and return the coupon. *Reg. U.S. Pat. Off.

MILL A—55-45 wool-rayon blend. Applied 1.5% Syton to wool stock; then blended before carding. Front roll speed increased from 105 to 139 r.p.m.—resulting in over 30% increase in production.

MILL B—50-50 wool-rayon blend. Applied 2% Syton, 3% oil emulsion. Stock carded well and was spun to 3⅛ run yarn. Tensile strength increased from 75 to 89 lbs.—a gain of 18%.

MILL C—80-20 wool-nylon blend. Applied 2% Syton, 4% oil to wool stock; then blended with nylon. Overseer attributed improved spinning to uniformity of sliver and yarn.

MILL D—50-50 wool-Dynel blend. Applied 1% Syton, 2½% oil (based on weight of wool) to blended stock. Spun to 6 run. Good control of fibers, smooth, uniform yarn noted.

MILL E—50-50 wool-viscose blend. Applied 1½% Syton, 3% oil to wool; then blended with rayon. Mill had used Syton for 18 months on blends, including virgin and darnetted wool, acetate, viscose, and nylon, with consistently good results.

MONSANTO
CHEMICALS—PLASTICS
SERVING INDUSTRY...WHICH SERVES MANKIND

MONSANTO CHEMICAL COMPANY, Textile Chemicals Dept.,
Desk TWT-38, Everett Station, Boston 49, Mass.

Please send me information on: ☐ Syton ☐ Sterox 6 ☐ Stymer ☐ Merlon
☐ Resloom ☐ Sted ☐ Catalyst AC ☐ Dye fixatives ☐ Rezgard

Name & Title _____

Company _____

Address _____

City, Zone, State _____

Ashworth
CARD CLOTHING

Fall River, Worcester, Greenville and Philadelphia . . . four of a kind that can't be matched as a source of continuous supply of card clothing and similar products. These four widely separated Ashworth factories are your guarantee of dependable delivery.

But it's also good to know that when you specify Ashworth you're getting consistently high quality also — resulting from over 90 years' experience in cards and card clothing by one family.

To profit from that experience . . . to make your cards more efficient . . . ask us about the free Ashworth Surveys — today.

ASHWORTH BROS., INC.

American Card Clothing Co. (Woolen Division)

Fall River *†‡ Worcester *‡ Philadelphia*†‡ Atlanta†‡
Greenville*†‡ Charlotte†‡ Dallas†‡ (Textile Supply Co.)

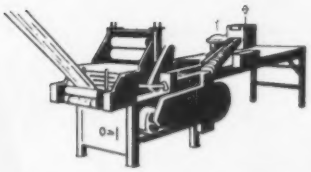
Factory* Repair Shop† Distributing Point‡

PRODUCTS AND SERVICES

Card Clothing for Cotton, Wool, Worsted, Silk, Rayon and Asbestos Cards and for All Types of Napping Machinery. Brusher Clothing and Card Clothing for Special Purposes. Lickerin Wire and Garnet Wire. Sole Distributors for Platt's Metallic Wire, Lickerins and Top Flats Reclothed.

4 FACTORIES . . . 6 REPAIR SHOPS . . . 7 DISTRIBUTING POINTS

Now, ONE MACHINE changes synthetic tow to crimped sliver

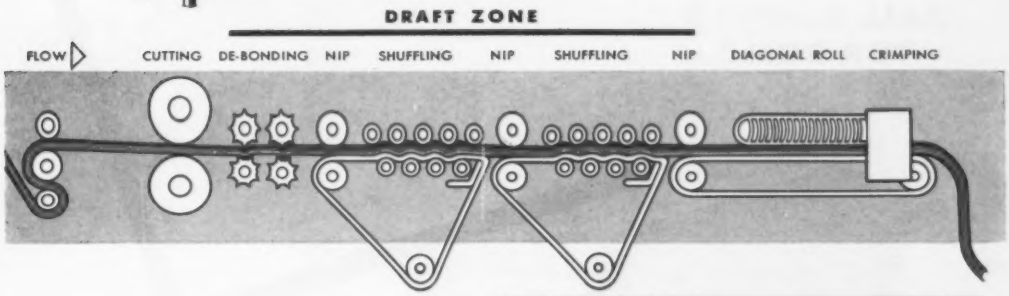


● Now, in one efficient operation, the Converter changes synthetic tow into cut staple ready for the drawing operations.

Fibers enter the Converter as continuous tow, where they are cut to the desired length, either uniform or varied, up to six inches maximum. They emerge as drawn crimped sliver, ready for further integrating and reducing operations.

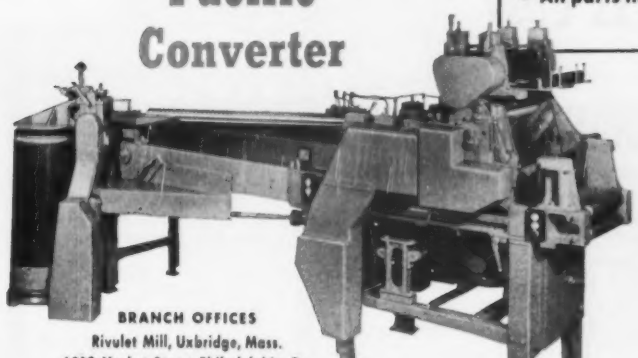
As a result, the Converter is a real cost-saver. It eliminates entirely such operations as mixing, picking, carding, gilling, and combing. And the original cost of the machine is only a fraction of the cost of the machines it replaces. There is a big saving in floor space. And one operator can handle two or more Converters.

Our Field Engineer in your territory can give you complete information. Or write today for our new Converter Bulletin.



The Warner & Swasey-Pacific Converter

- Cuts staple 3" to 6" in length
- Insures exact percentages of blend
- Retains finish, appearance, and strength
- Ruggedly designed and built
- Easy to maintain
- Minimum floor space needed
- All parts interchangeable between machines



BRANCH OFFICES
Rivulet Mill, Uxbridge, Mass.
6910 Market Street, Philadelphia, Pa.
Candler Bldg., Atlanta, Ga.

WARNER & SWASEY
Cleveland
TEXTILE MACHINERY DIVISION

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS...WITH A WARNER & SWASEY

 For more information, write direct or use Reader Service post card.

Read what Mr. Seals has to say about his

CLIMAX
BALL BEARING TOP ROLLS

CARLTON YARN MILLS, INC.
FINE COMBED YARNS
CHERRYVILLE, N.C.

October 25, 1950

Machinecraft, Inc.
21 Vernon Street
Whitman, Massachusetts

Attention: Mr. Louis M. Cotchett, President

Dear Mr. Cotchett:

Subject: Climax Ball Bearing Top Rolls

Just three years ago we bought our first installation of Climax ball bearing top rolls from Watson & Desmond for our roving frames. Since that time we have continued to equip our roving frames with Climax top rolls.

Our use of Climax rolls produces better roving which is reflected in more even and stronger yarn. Costs in our card room have been also lowered because of the reduction in cleaning and picking that is possible by the use of Climax rolls, and because these rolls completely eliminate the nuisance and labor of top roll oiling. Our cots also last longer due to the Climax roll turning evenly and freely on the fluted roll.

We are well pleased with the performance of Climax top rolls and figure that they have more than paid for themselves.

With kind regards, I remain

Very truly yours,
CARLTON YARN MILLS, INC.
M. E. Seals
M. E. Seals
Superintendent

MES/ph

FOR ROVING
FOR SPINNING

They pay a quick, handsome profit through

BETTER YARN AT LESS COST

Climax Ball Bearing Top Rolls adopted by

Whitin

MACHINE WORKS

and supplied on Whitin machinery as standard where anti-friction rolls are required. Climax Rolls are available through Whitin Machine Works and all of their agents.

MACHINECRAFT, INC.

21 VERNON STREET, WHITMAN, MASS.

Northern Sales:
Richard K. Butler
P. O. Box 428
Whitman, Mass.

Southern Sales:
Watson & Desmond
P. O. Box 1954
Charlotte, N. C.

Argentine and Uruguay:
Roberto Zander, Representante-Importador
345 — Juan Jaures — 353 (Suc. 13)
Buenaes Aires, Argentina

Brazil:
Eduard Seelig & Cia, Ltd.
Caixa Postal 5904
Sao Paulo, Brazil

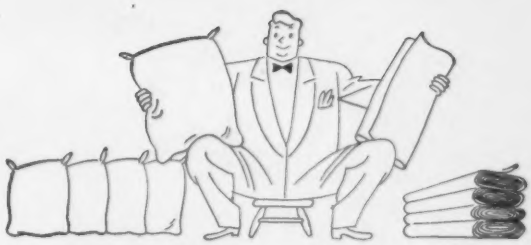
Mexico:
Slobotzky, S. A.
Avenida, Uruguay 55
Mexico, D. F.

Climax Ball Bearing Top Rolls are made for

Cotton System Spinning Rolls for all standard and long-draft systems
Cotton System Roving Rolls
American System Worsted Rolls
French and Bradford Worsted Rolls
Wool Spinning Rolls

Climax Rolls are custom-made to suit your equipment and your weighting requirements.

Meet your SWIFT SOAP TEAM



We're READY with quality soaps for every textile need!

You can always find the right soap for the job in Swift's complete line. Whether you need soaps for dyeing, fulling or scouring or any other specialized need, Swift's Soap Department is at your service. And you'll find that Swift's Soaps for textile uses have maximum uniformity of composition and excellent physical form. You can't buy finer soaps anywhere.

WILLING to put Swift's research laboratory to work developing better products for your purpose!

Our technical division is constantly working on textile problems. This means that Swift Soap products always have the quality and effectiveness to help you get better results.

Call SWIFT first for soaps

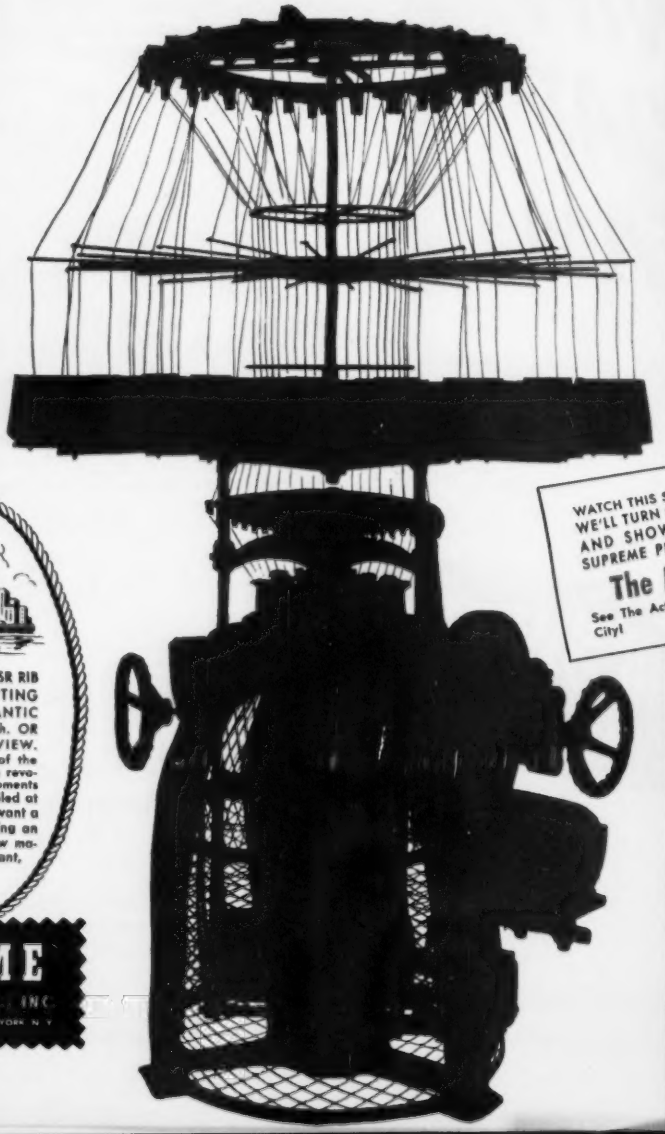
And ABLE to give service from Swift distribution points coast to coast!

You can order any of the fine soaps listed below. Remember—use good soap and enough of it! Good soap promotes economy for you . . . better products for your customers.

Vertex Flakes *557 Flakes* *White Ribbon Flakes* *Wool Flakes*

Plus other special formulations to meet your specifications. See your local telephone directory for address of your nearest Swift & Company office.

SUPREME opens the door to...



WATCH THIS SPACE NEXT MONTH! WE'LL TURN ON THE SPOTLIGHT AND SHOW YOU THIS NEW SUPREME PRODUCTION STAR—

The MODEL SR

See The Actual Machine At Atlantic City!

SEE THE NEW SUPREME SR RIB MACHINE AT THE KNITTING ARTS EXHIBITION ATLANTIC CITY, APRIL 30th-MAY 4th. OR ASK FOR FACTORY PREVIEW.

This ad tells only part of the story. You'll see even more revolutionary technical developments when the Model SR is unveiled at Atlantic City. Knitters who want a preview can get it by making an appointment to see the new machine at the Supreme plant, right now.

SUPREME

KNITTING MACHINE CO., INC.

107 JOHNSON AVE. BROOKLYN 6, NEW YORK, N. Y.

BETTER PRODUCTION OF RIB CLOTH

SUPREME M'f'g Co.

Knitting News

SUPREME ANNOUNCES NEW SUPER-RIBBER

New Supreme Ribber Utilizes Latest Technical Advances To Give Tremendous Production And Quality Bonus

Before buying his next machine, the ribbed cloth knitter should see how Supreme's new machine will improve quality and increase production. Some of the advantages that can be told now are listed below. At the official unveiling at The Knitting Arts Exhibition, even more important features will be shown.

Some Of The New Model SR Advantages

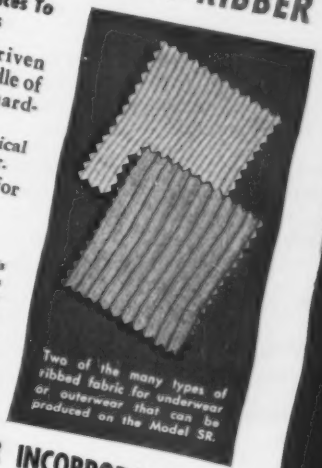
- Dogless construction eliminates longitudinal pinch lines in cloth.
- Single-action, micrometric, dial-elevating and lowering adjustment provides:
  1. Accurate and uniform stitch adjustment at the flip of a finger.
  2. Quick and easy access to the cloth at the knitting level.
- Channelled needle cam track, designed to lock needles in their proper position at all times.

Supreme Super-Ribber Construction Features Include:

- Open tripod construction throughout the machine.
- Large open area around cylinder and dial for easy cleaning and maintenance.
- Overhead, gear-driven dial with center spindle of special alloy steel, hardened and ground.
- Roller bearing vertical drive to upper dial gear.
- Roller bearing thrust for entire center drive.

Model SR Machine Sizes

7"	10 Feeds	17"	24 Feeds
8"	12 Feeds	18"	26 Feeds
9"	12 Feeds	19"	28 Feeds
10"	14 Feeds	20"	30 Feeds
11"	16 Feeds	21"	30 Feeds
12"	18 Feeds	22"	32 Feeds
13"	18 Feeds	23" to 30"	with feeds increased proportionately
14"	20 Feeds		
15"	22 Feeds		
16"	24 Feeds		



Two of the many types of ribbed fabric for underwear or outerwear that can be produced on the Model SR.

NEW SUPER-RIBBER INCORPORATES SUPREME PROVEN-IN-USE FEATURES

Supreme's entirely new line of high-speed circular rib knitting machines includes many of the revolutionary production-improving features which have made Supreme's circular jersey machines so successful.

These production-boosting features include:

- *Stationary Yarn Stand* — Permits greater RPM of the cylinder, dial and knitting elements system; lets the knitter use double cone system with "pig-tail" double tieups. Assures faster stopping and starting . . . greater safety and efficiency.
- *Revolving, Floating Take-Up and Roll-Up*—Interwinding, roller-bearing supported. Uniform tension assures large, even and compact cloth rolls. Independent support prevents wear on cylinder and outer ring.
- *Unit Motor Drive* — Rugged, smooth-running. Patented multi-disc clutch gives almost instant start and stop. No slippage. Smooth, silent chain drive unaffected by lint or dust.

only

ECLIPSE BOBBIN HOLDERS

OFFER THESE

"BIG TEN" Features

1. Completely replaces wooden skewers.
2. Stainless steel ball bearings minimize friction, resulting in uniform quality of roving.
3. Permits less twist. Tests indicate yarn of more even texture.
4. Creel boards easily cleaned. Overhead suspension leaves open creels. Blowers more effective.
5. Better spinning of spun rayon.
6. Easier creeling; less physical effort and fewer motions required.
7. Improved brake attachment prevents over-run and backlash.
8. Now cadmium plated and stainless steel balls more rust resistant.
9. Time-tested product—holders in operation for over ten years.
10. Easy to install; practically no upkeep.

★ ★ ★

Textile men everywhere are concerned with efficiency and economy of operation, and that's just what these *exclusive* Eclipse features assure you! If you want to modernize your present plant equipment profitably, you can't go wrong with the finest—Eclipse Bobbin Holders. Write us for further details.

ECLIPSE MACHINE DIVISION of
ELMIRA, NEW YORK
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

Bendix AVIATION CORPORATION

ECLIPSE

REEVES Vari-Spin Drive . . .

by far the quickest way to change cylinder speeds

To change speeds, simply turn a screw

- **Eliminates downtime and troublesome pulley changes.**
- **Speed changed without stopping the machine.**
- **Speed changes *always* immediate and positive.**
- **Full lubrication assures free-moving parts.**
- **Speed setting is accurately maintained.**
- **Compact—nests into narrow aisles.**
- **Uses any standard constant speed motor and only one belt.**

Mills report outstanding results with this new simplified drive . . . the minimum of ends down at the highest possible production rate!

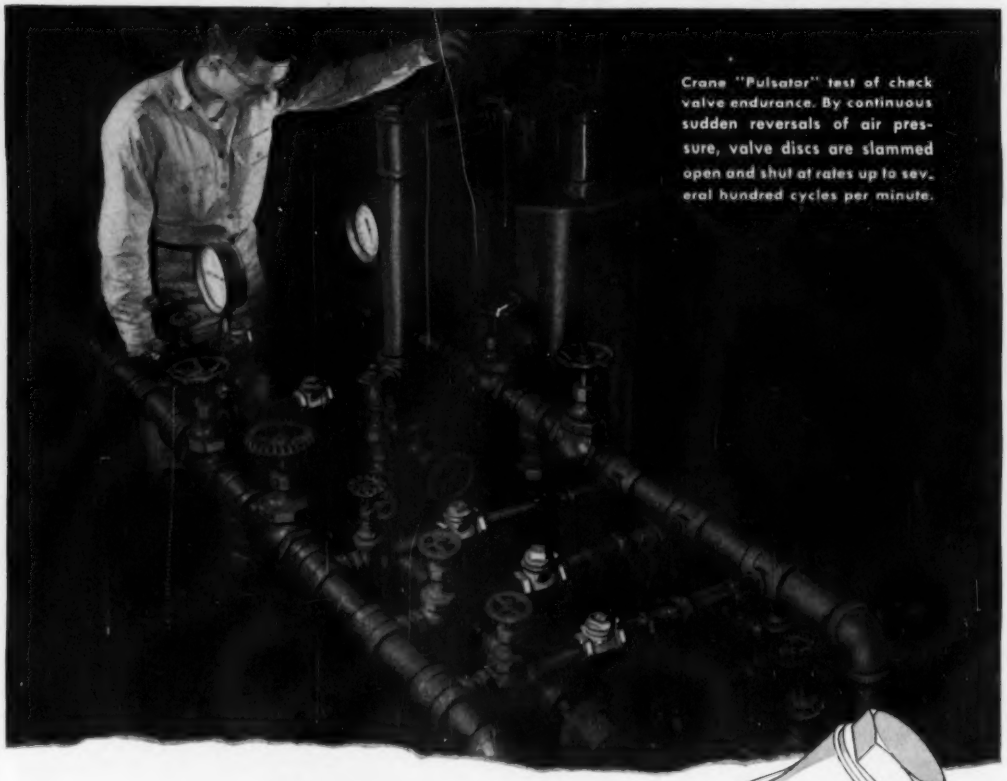
Speed adjustment with the REEVES drive is stepless and infinite within its range—2½:1. This wide range covers operating speeds for all yarn sets. Slightest speed changes can also be made to compensate for excessive tension and for humidity or temperature variations.

The REEVES drive is so positive that returns to previous cylinder speeds within a fraction of an rpm are secured. The design is so simple that installation and maintenance are quick and easy. Get complete information. Write today for Vari-Spin Bulletin W61-G501.

accurate · variable
REEVES *Speed Control*

REEVES PULLEY COMPANY • COLUMBUS, INDIANA
Recognized Leader in the Specialized Field of Speed Control Engineering

More **CRANE VALVES** are used than any other make



Crane "Pulsator" test of check valve endurance. By continuous sudden reversals of air pressure, valve discs are slammed open and shut at rates up to several hundred cycles per minute.

How Many Checks in a Good Check Valve?

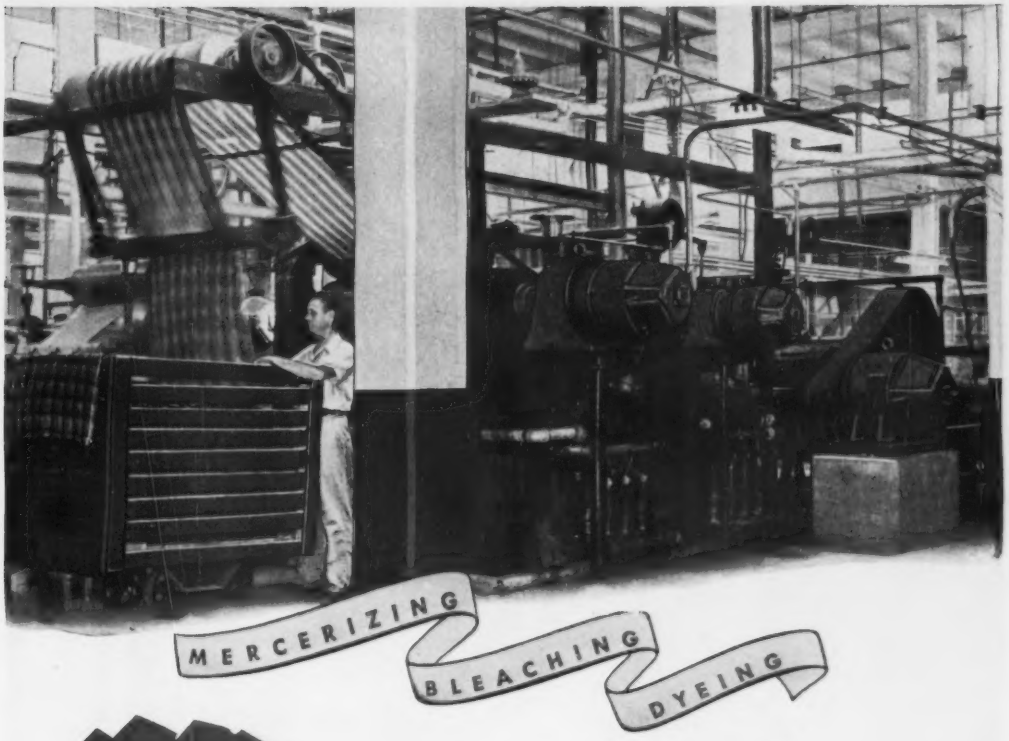
You don't buy them that way, but that's what finally determines the value of check valves in your pipe lines. That's why Crane is so completely equipped for accurately pre-testing valve performance. For instance, "wearability" of check valves is tested by opening and closing the valves continuously on various fluids under conditions of actual service. Special equipment is used to accelerate these tests to equal many years' service in a short period. Countless tests like this—of materials, designs, and finished products—insure the superior performance values that mean lower piping costs for users of all Crane valves and fittings.

This new regrinding Brass Swing Check design typifies Crane's continuing product development for better valve performance, lower piping maintenance costs. For increased flow capacity . . . for fast, positive closure on backflow . . . for easier servicing without removing valve from line . . . get a demonstration of these 200 and 300-Pound Y-Pattern Check Valves. Phone your Crane Representative, or ask for literature.

CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING



RELIANCE V★S DRIVE ®

"Drive by RELIANCE" means *PEAK PRODUCTION* at *LOWEST COST* *on any textile range!*

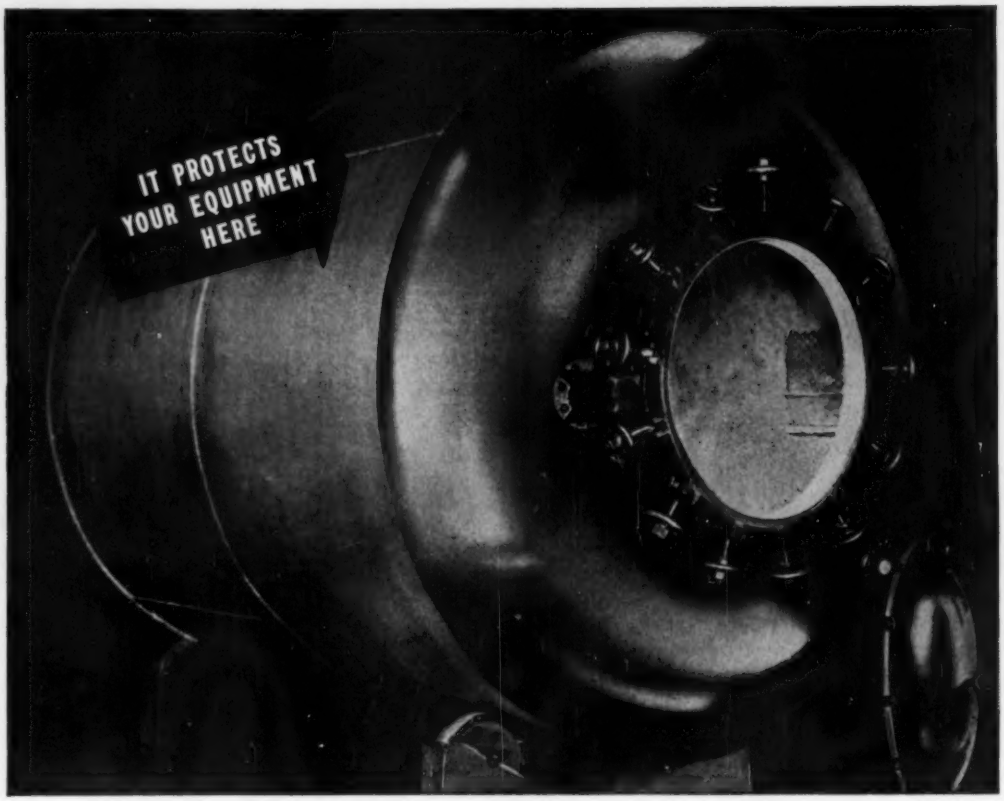
There are good reasons why so many modern textile range drives are engineered by Reliance! Take the advantages inherent in the Reliance V★S Drive, add the Reliance know-how of over 30 years of specialization in planning range drives, and the result is always *peak production at lowest cost.*

Operating from A-c. circuits, the *All-electric* Reliance V★S Drive, offering quick, smooth starting and stopping and regulation of speed and tension can be adapted to any requirements. Consult a Reliance Application Engineer *early* in your consideration of new equipment or your modernization of existing equipment! Write for Bulletins 311 and D-2101.

Sales Representatives in Principal Cities

RELIANCE ELECTRIC AND ENGINEERING CO.

"Motor-Drive is More Than Power" • 1086 Ivanhoe Road, Cleveland 10, Ohio



Specify "ELC" Where Corrosion Strikes Hardest

If your new equipment will be exposed to severely corrosive acidic processing solutions, Armco Stainless Steel Type 316 ELC could well be the metal you need to protect areas adjacent to welds.

Armco ELC is just as corrosion-resistant in these areas as elsewhere. The reason is the *Extra*-Low Carbon content (.03% maximum) of Armco's ELC grades of stainless.

This eliminates costly intergranular corrosion by preventing harmful carbide precipitation due to the effects of welding. Areas near the welds staunchly resist corrosive attack when your equipment is in service.

Equally important to you, Armco ELC grades *cost less* than corresponding types stabilized by the addition of columbium or titanium.

WIDE RANGE OF USES

Armco Type 316 ELC is ideal for corrosive conditions at service temperatures below 800° F. It can cut operating costs and prolong service life in agers, bleaching machines, and fulling machines; in carbonizing equipment, dye kettles and piece carbonizers (acid tank) in wool processing equipment.

Find out how *you* can take advantage of the special properties of Armco ELC. Just write us, or ask your equipment fabricator to inquire.

ARMCO STEEL CORPORATION

4350 CURTIS STREET, MIDDLETOWN, OHIO • PLANTS AND SALES OFFICES FROM COAST TO COAST • THE ARMCO INTERNATIONAL CORPORATION, WORLD-WIDE

ARMCO

"Hosiery merchandising begins with good knitting",

says HARRY KIMMELMAN, hosiery buyer, McCreery's, New York.

As every experienced hosiery buyer knows, good knitting is an *essential* in creating brand acceptance and building brand preference. And good needles are *essential* in producing good knitting. This is one of the reasons why so many leading mills use

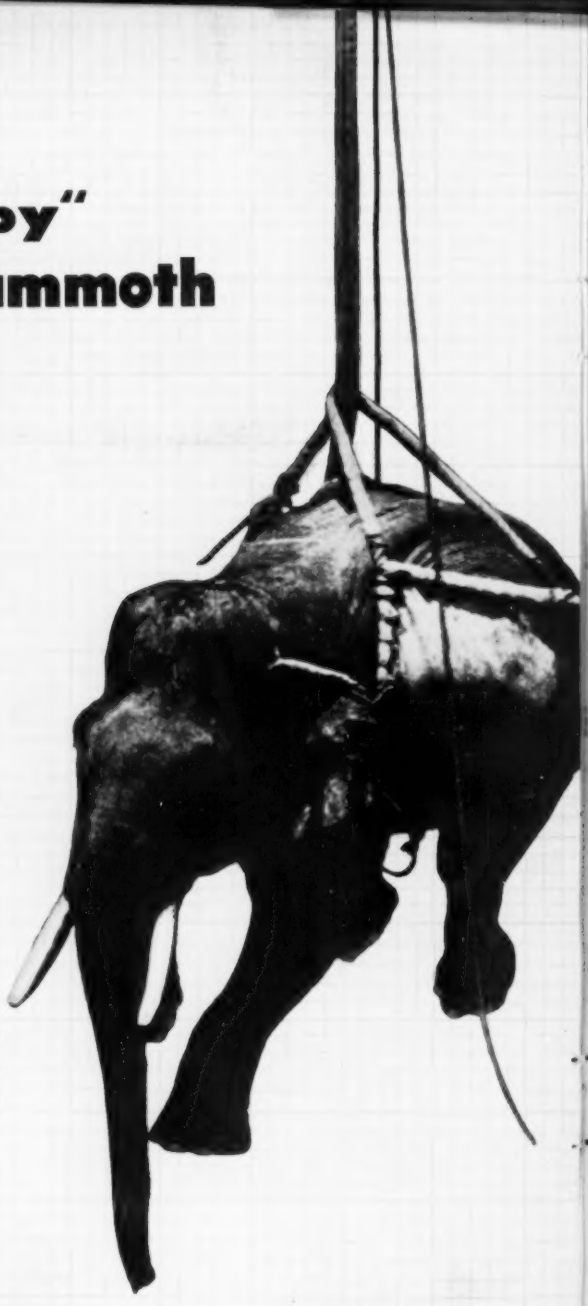
TORRINGTON

SPRING BEARD NEEDLES · SINKERS · DIVIDERS · SPLIT DIVIDERS

THE TORRINGTON COMPANY, Torrington, Conn., U. S. A.
Established 1866

Branches: New York • Philadelphia • Chicago • Greensboro, N. C. • Boston • St. Louis Toronto, Canada • *Pacific Coast Representative:* E. G. Paules, 1762 West Vernon Ave., Los Angeles 37, California. Broadgate House, 7-10 Eldon St., London E. C. 2, England

how to "baby" a mammoth



The way to handle a big load smoothly and easily with the smallest possible anti-friction unit is to use a Torrington Needle Bearing. The Needle Bearing has a higher radial capacity than any other anti-friction bearing of comparable size. We will be glad to show you what this can mean in terms of the compactness, capacity, life expectancy and all 'round performance of your equipment.

THE TORRINGTON COMPANY
Torrington, Conn. • South Bend 21, Ind.
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TORRINGTON *NEEDLE* BEARINGS

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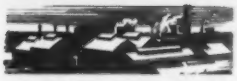

Original Solvay Plant

70 Years of PROGRESS

Progress can be measured in many ways...

Our progress, for example, might be measured by comparing our original soda ash plant to our five great plants that today have the world's greatest output of alkalies and associated chemicals. Or we might compare our early technical and research facilities with our present laboratories—the world's largest and best equipped for alkali research.

But the way we like to measure our progress is by the steady year-by-year growth in the number of firms and individuals who continue to "specify Solvay." It is *their* feeling toward Solvay and Solvay Products that has made this progress possible.

Hopewell, Va.

Baton Rouge, La.

SOLVAY

Trade Marks SOLVAY and Registered U.S. Pat. Off.

Alkalies Chemicals

70 YEARS OF SERVICE

1881 1951

ALKALI PRODUCTS
Soda Ash • Caustic Soda

CHLORINE AND CHLORINATED PRODUCTS
Liquid Chlorine
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SOLVAY SALES DIVISION, Allied Chemical & Dye Corporation, 40 Rector Street, New York 6, N. Y.

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EX-CELL-O

... a great name in the

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Ex-Cell-O has been making precision parts to customers' specifications for close to 30 years. Today, these Ex-Cell-O products include parts for the textile industry . . . from spindles and various small parts to large assemblies. Ex-Cell-O has the facilities—machines, heat treat, assembly, and inspection—to produce your precision parts economically, in small or large volume, and in accordance with your delivery schedule. For a quotation, send a part blueprint to Ex-Cell-O Corporation in Detroit today.

Bulletin No. 26181 describes Ex-Cell-O's textile products. Write now for your free copy.

EX-CELL-O CORPORATION DETROIT 32

XLO

For more information, write direct or use **Reader Service post card.**

PROTECTION PLUS...

for Every Phase of Wool and Worsted Processing with EMERY TWITCHELL OILS!

LUBRICITY

Excellent lubricating characteristics minimizes fiber abrasion and resulting breakage. Increases carding efficiency and provides low fly loss which subsequently results in high wool yield.

SCOURABILITY

All Twitchell Oils scour very readily with a minimum of soap to insure a low residual oil content. Twitchell 7430 Oil is a self-scouring type and practically no soap is required.

EMULSION STABILITY

All are self-emulsifiable and produce unusually stable emulsions that will not curd. The extremely small particle size provides quick even penetration and spreading which results in uniform oil distribution to give uniform lubrication.

NON-STAINING

Oils will not discolor yarns, oxidize, heat up or develop odors even after prolonged storage. Twitchell 7420 is compounded especially for whites and pastels where any trace of discoloration is detrimental.

NON-CORROSIVE

High stability Twitchell Oils will not corrode processing equipment nor deteriorate condenser tapes. Will not gum up card clothing or other parts.

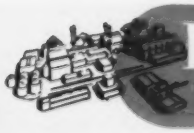
ECONOMY

The processing economy resulting from outstanding performance, coupled with their low initial cost, make Twitchell Oils the best money value for high quality production.

A selection of Woolen and Worsted Oils is offered to accommodate various processing methods, fibers and fabrics. Choose the Twitchell Oil that best meets your requirements.

PRODUCT	LUBRICITY	SCOURABILITY	NON-STAINING	APPLICATION
Twitchell 7410 Wool Oil	Excellent	Very Good	Very Good	Oil or Emulsion
Twitchell 7420 Worsted Oil	Excellent	Excellent	Excellent	Oil or Emulsion
Twitchell 7430 Oil	Excellent	Self-scouring	Very Good	Emulsion only

For a recommendation to fit your particular need, contact our Sales Service Department.



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CAREW TOWER • CINCINNATI 2, OHIO

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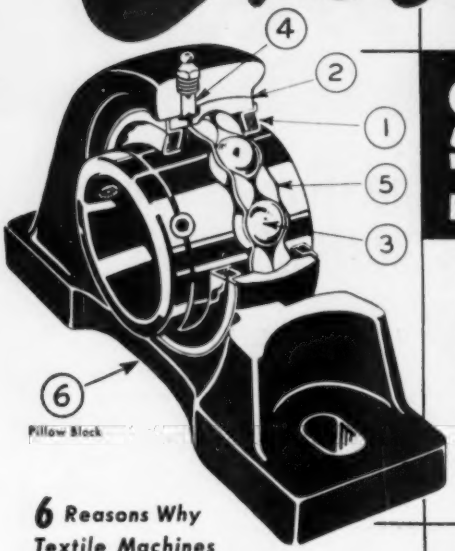
End oil seep... soiled yarn and fabric with



SEALMASTER
BALL BEARING UNITS

SEALMASTER Ball Bearing Units are designed and manufactured to give users continuous, trouble-free service at the lowest maintenance cost...on all types of textile equipment.

SEALMASTERS permanent seals keep dust and lint out and lubricant in . . . prolong bearing life. Bearing unit is fully self-aligning in the housing without possible seal distortion.

Write for your copy of catalog 845 . . . gives dimensions, load ratings and engineering data on the complete SEALMASTER line.

6 Reasons Why Textile Machines Should Have SEALMASTER BEARINGS

1. **PERMANENTLY SEALED!** Felt-lined steel flinger rotating in labyrinth prevents entry of dirt and fly. Retains proper amount of lubricant. Can't leak to soil yarn or fabric.
2. **SELF-ALIGNING!** Bearing unit, with seals independent of housing, can align itself in any direction without seal distortion.
3. **PRE-LUBRICATED!** Bearing chamber is filled with proper amount of lubricant before shipment from SealMaster factory.
4. **NO HOUSING WEAR!** Patented locking pin and dimple prevent rotation of outer race in housing. This eliminates housing wear and permits shaft alignment and position unit for relubrication when needed.
5. **FLOATING RETAINER!** Ball retainer is designed to float on ground inner surface of outer race. Traps lubricant and prevents churning.
6. **HOUSING DESIGN!** SealMaster's cast housings combine rigid, one-piece construction with smooth streamlined appearance.

Invite the SEALMASTER engineer to give your company the full story on SEALMASTER bearings. If you have a special bearing problem... put it up to him for recommendation.

Flange-Cartridge Unit

Cartridge Unit

Flange Unit

BEARING DIVISION

STEPHEN S-A DAMSON
MFG. CO.

10 RIDGEWAY AVENUE, AURORA, ILLINOIS — LOS ANGELES, CALIF. ★ BELLEVILLE, ONT.

Factory Representatives and Dealers in All Principal Cities

Thomaston Cotton Mills, Inc., Georgia, use Gates Vulco Ropes on the multiple V-Belt drives of the ply twisters shown in the photograph. In this application, the Gates Vulco Ropes have been averaging 31,200 hours of service—the equivalent of 13 years at 8 hours a day.

This Simple Test Tells WHY the Concave Sides of Gates Vulco Ropes Mean *Longer Belt Life!*

Prove this *yourself*—in two minutes' time.

Take any V-belt that has *straight* sides. *Bend* that V-belt while you grip its sides between your fingers and your thumb. You will *feel* the sides of the belt *bulge out*—as shown in figure 1-A, below.

Clearly, that outbulge forces the sides of the belt to press *unevenly* against the V-pulley—and this concentrates the *wear* where the bulge is greatest.

Now, make the same test with the belt that is built with the Concave Sides—the Gates Vulco Rope.

Figures 2 and 2-A show clearly what happens when you bend a Vulco Rope. Instead of *bulging*, the precisely engineered Concave Sides merely *fill out* and become perfectly straight. There is no side-bulge. This belt, when bent, precisely fits its sheave groove.

Because there is *no bulging*, the sides of the Gates Vulco Rope always grip the *full* face of the V-pulley *evenly* and therefore wear *uniformly*—resulting in *longer belt life* and *lower belt costs for you.*

Only V-belts made by Gates are built with concave sides. Whenever you buy V-belts, be sure that you get the V-belt with the Concave Sides—The Gates Vulco Rope!

What Happens When a V-Belt Bends

How Straight-Sided V-Belt Bulges in Sheave-Groove. Sides Press Unevenly Against V-Pulley Causing Extra Wear At Point Shown by Arrows.

The Concave Sides Fill Out to a Precise Fit in the Sheave-Groove. No Side Bulge! Sides Press Evenly Against the V-Pulley—Uniform Wear—Longer Life!

CS-511

THE GATES RUBBER COMPANY
DENVER, U. S. A.
The World's Largest Makers of V-Belts

Gates VULCO ROPE DRIVES
Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U. S. and 71 Foreign Countries

NON-FLUID OIL

TRADE MARK REGISTERED

FOR LONG DRAFT SPINNING

NON-FLUID OIL is the ideal lubricant for rolls and saddles because it does not drip or leak. The positive lubrication it provides enables top and bottom rolls to maintain correct speed and produce even yarn.

Because NON-FLUID OIL stays in bearings until entirely used up, it outlasts oil, saving on lubricant and application cost. For the same reason, NON-FLUID OIL does not get on top roll covers to blacken yarn.

We are prepared to furnish mills with skilled engineering service. Write for Bulletin T 13TW and free testing sample of NON-FLUID OIL.

NEW YORK & NEW JERSEY LUBRICANT COMPANY

292 Madison Ave., New York 17, N. Y. • Works: Newark, N. J.

SOUTHERN DIST. MANAGER: Falls L. Thomason, Charlotte, N. C.

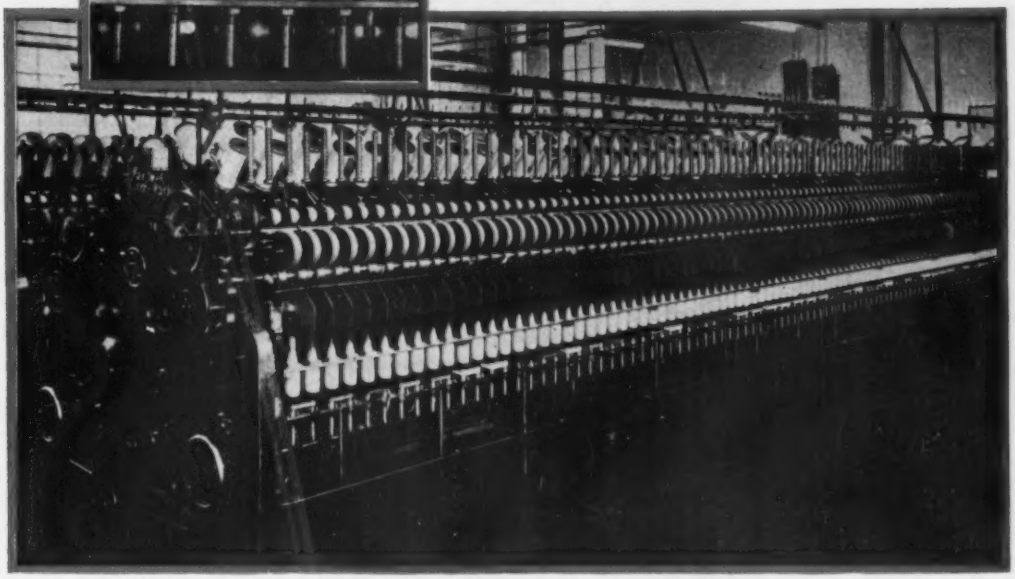
WAREHOUSES: Atlanta, Ga.—Birmingham, Ala.—Charlotte, N. C.—Chicago, Ill.—Columbus, Ga.—Detroit, Mich.—Greensboro, N. C.—Greenville, S. C.—Providence, R. I.—St. Louis, Mo.

DON'T YOU BELIEVE IT! If anyone approaches you with products they swear to be exact imitations of NON-FLUID OIL, at a lower price, don't you believe it! The basic factors in all industrial production preclude paying a little and getting a lot . . . Remember, you only get what you pay for! *NON-FLUID OIL is not the name of a general class of lubricants, but is a specific product of our manufacture. So-called grease imitations of NON-FLUID OIL often prove dangerous and costly to use.*

Marquette ROLLER BEARING SPINDLES

with FULL-FLOATING FOOTSTEP BEARING

For Cotton, Rayon, Nylon, Wool, Worsted



This New England mill, making fine quality worsted yarn, installed a test frame of Marquette Roller Bearing Spindles in 1945. Since that time they have purchased several thousand Marquette Spindles as required for frame change-overs.

Not only do Marquette Spindles aid this mill in maintaining its reputation for producing yarn of highest quality, but the mill's records also show that these spindles cut costs in two important ways. First, they effect a saving of 23% in power consumption. Second, the normal oiling schedule is 3,000 hours.

We'll be glad to prove the advantages of operating Marquette Roller Bearing Spindles in **your** mill. For a test installation, contact our home office or one of our representatives.

PROTECTED BY U. S. AND FOREIGN PATENTS, AND PATENTS PENDING

The Marquette
METAL PRODUCTS CO.
CLEVELAND 10, OHIO
SUBSIDIARY OF CURTISS-WRIGHT CORPORATION

Representatives:
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Also Manufacturers of: HYDRAULIC GOVERNORS • FUEL OIL PUMPS • FUEL OIL INJECTORS
WINDSHIELD WIPERS FOR AIRCRAFT, TRUCKS AND BUSSES • PRECISION PARTS AND ASSEMBLIES

PLANNED INTERFERENCE

BLOCKS HIGH COSTS!

With Baldwin-Rex Roller Chains on your drives, you won't be troubled with high maintenance and repair costs . . . production losses . . . due to premature chain failure. *Planned interference* protects you! Here's why:

1 The press fit of pins and bushings in roller chain side plates materially determines length of chain life. Correct press fits prevent pins and bushings from turning in their side plates so that when chain flexes, a relatively broad surface of pin and bushing takes the wear. If a pin or bushing were to break loose and turn in the side plate, with each flexing of the links, wear would be concentrated on a small pin or bushing surface at the plate and materially shorten the life of the chain.

2 In Baldwin-Rex Chains, pins, bushings and side plates are built with *planned interference.* In other words, pins and bushings are actually designed to be a specified amount larger than the holes into which they are to fit. This assures a controlled press fit and prevents rotation of pin and bushings in side plates. It means longer, lower cost chain life to you!

Ask your Baldwin-Rex Field Sales Engineer to demonstrate *planned interference* with his sample kit. It's graphic proof of long life. Or, for details, write Baldwin-Duckworth Division of Chain Belt Company, 346 Plainfield Street, Springfield 2, Mass.

BALDWIN-REX
ROLLER CHAINS

BALDWIN-DUCKWORTH
DIVISION OF CHAIN BELT COMPANY
a complete line from ¼ to 2½-inch pitch

ask that nearby mill

about GARDNER-DENVER RX COMPRESSORS

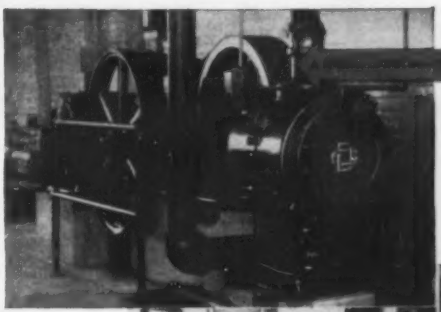
Your Gardner-Denver field engineer will gladly tell you about RX textile mill installations in your area. The chances are there's one nearby — where you can learn firsthand, for example

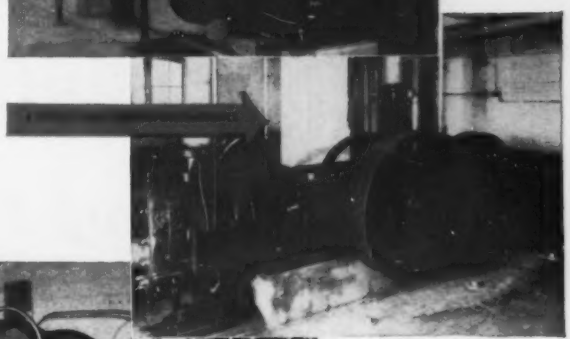
— that RX Compressors are rated highly efficient — because air flows freely through their large valve and port areas.

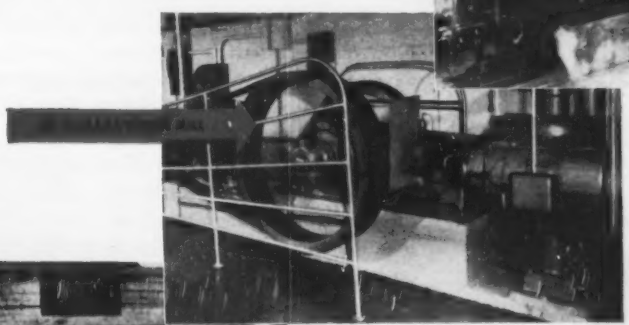
— that they're often called power-misers — thanks to the automatic control that limits power consumption to air demand.

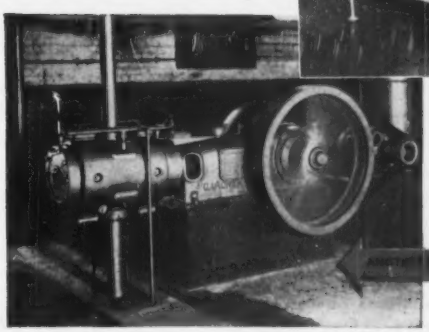
— that maintenance records prove RX Compressors are always ready for round-the-clock service when production demands are high.

Write us for complete information.









SINCE 1859

GARDNER-DENVER

Gardner-Denver Company, Quincy, Illinois

In Canada:

Gardner-Denver Company (Canada), Ltd., Toronto, Ontario

THE QUALITY LEADER IN PUMPS, COMPRESSORS AND ROCK DRILLS

Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D.C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.

Announcing—

two new Thorobred "running mates"—

the amazing new

DAYTON THOROBRED PICKERS

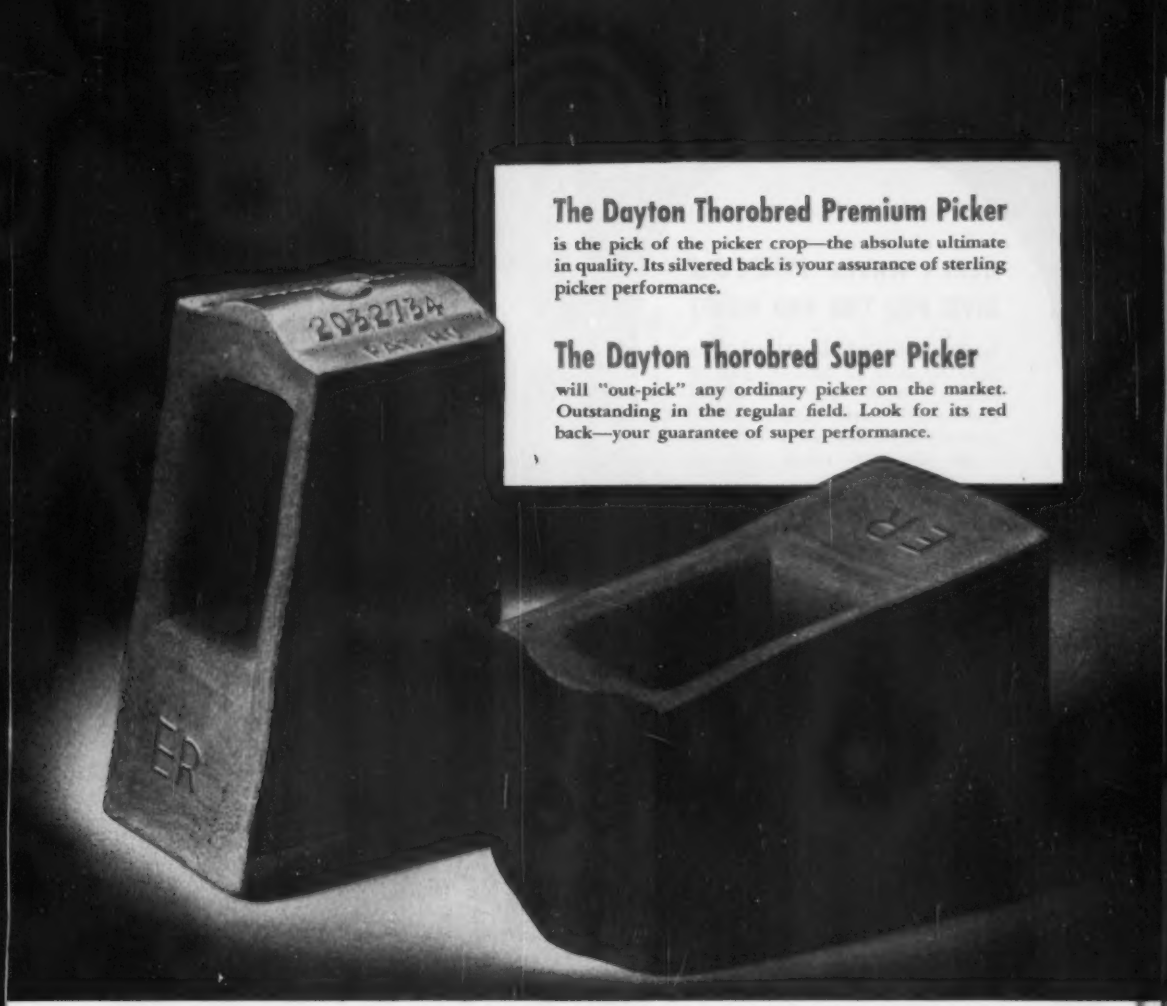
that last up to 200% longer!

Now, as the result of 12 years of product improvement and development, Dayton introduces the greatest advance in picker performance since rubber pickers were introduced to the textile field by Dayton.

These two new Dayton Pickers—the "Premium" and the "Super"—combine more durable fabrics and compounds, with these improved design features: rounded front edges that eliminate hanging filling; narrow back that permits free non-wear on lay-in strap; flared bottom that makes picker stick easier to apply.

Intensive testing in laboratory and mill preceded announcement of these new pickers. Tested against all other makes of pickers, they consistently outlasted them, often as much as two times! Cut down-time in the picking operation by the same amount, increased cloth production. Shuttles lasted longer, too, because these pickers run cooler. For high-speed looms as well as older types.

Turning out millions of new fashions in fig-leaves
is a big, year-round job for the mills of America. Dayco and Thorobred textile machinery products help turn them out economically for the consumer, profitably for the mill-man.



The Dayton Thorobred Premium Picker

is the pick of the picker crop—the absolute ultimate in quality. Its silvered back is your assurance of sterling picker performance.

The Dayton Thorobred Super Picker

will "out-pick" any ordinary picker on the market. Outstanding in the regular field. Look for its red back—your guarantee of super performance.

Dayton Drop-Box Pickers are "three-ways" better

Improved at the three vital points of picker operation: Extra-hard at the spindle hole; firm but with "give" around the picker stick hole; soft for shock-absorption at the shuttle contact area. Available in reversible and non-reversible types.

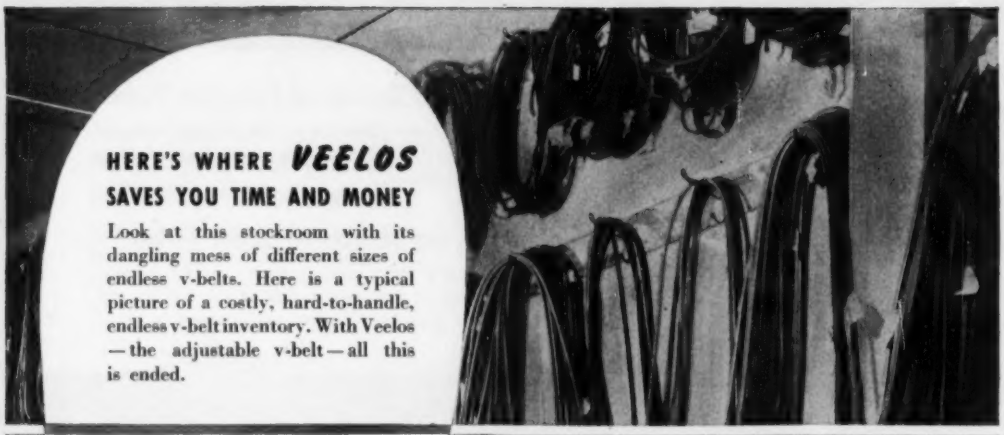
The Dayton Thorobred Lug Strap

can take millions of flexings, millions of picker stick blows without "fatigue," without stretching. The built-in cushion protects cam points and picker sticks. Temperature and humidity changes won't affect them. (Did you see the recent tests of this Lug Strap against three common types of strap? The Thorobred outlasted every one!)

If you would like to see the last word in modern high-speed pickers, ask your Dayton Distributor or salesman, or write: *The Dayton Rubber Co., Textile Division, Woodside Building, Greenville, S. C.*

Dayton Rubber

Textile Products for Better Spinning and Weaving



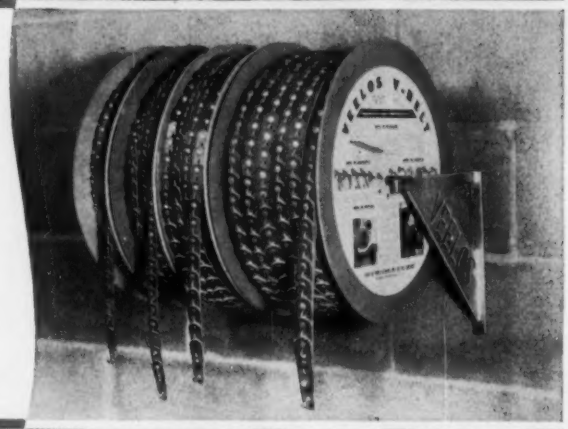
HERE'S WHERE *VEELOS* SAVES YOU TIME AND MONEY

Look at this stockroom with its dangling mess of different sizes of endless v-belts. Here is a typical picture of a costly, hard-to-handle, endless v-belt inventory. With Veelos — the adjustable v-belt — all this is ended.

WITH *VEELOS*, ANY BELT SIZE IS ALWAYS ON HAND

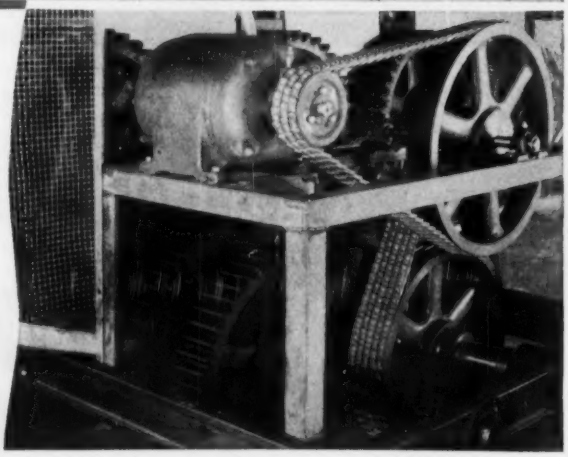
These four reels of Veelos alone can *replace* up to 316 sizes of endless v-belts in the O, A, B and C widths. No more stockroom troubles, no more replacement headaches because Veelos is *always* ready—in the widths you require.

If you are interested in reducing your v-belt costs and increasing your production efficiency, you should have a Veelos Data Book. For free copy of this illustrated book complete with engineering information write*



VEELOS ASSURES MAXIMUM MACHINE PRODUCTION

Veelos is easy to install *without* dismantling outboard bearings. Veelos runs true for vibrationless, full power delivery. Because Veelos is adjustable, uniform belt tension is easily maintained.



VEELOS
THE LINK
V-BELT

ADJUSTABLE TO ANY LENGTH • ADAPTABLE TO ANY DRIVE

Made in all widths in three types: regular, oil-proof, static conducting. Also double V in A and B. Packaged on reels in 100-foot lengths. Sales engineers in principal cities; over 350 distributors throughout the country. Veelos is known as VEELINK outside the United States.

*MANHEIM MANUFACTURING & BELTING COMPANY, MANHEIM, PA.

For more information, write direct or use Reader Service post card.

Stainless requires careful selection, too!

Before you marry your product to stainless steel, make certain that you've chosen the right analysis. *Stainless* is a broad term applied to a whole host of steels, each with its own characteristics. And to get the most out of stainless you must select with care.

That's why Crucible, a pioneer in the development of this specialty, offers you the services of a staff of metallurgists, well qualified by experience with hundreds of applications, to help you put stainless to work properly.

For more than half a century, Crucible has been the leader in the specialty steel field. There is no substitute for Crucible background — take full advantage of it. When you think of stainless — call in Crucible. CRUCIBLE STEEL COMPANY OF AMERICA, Chrysler Building, New York 17, N. Y.

CRUCIBLE first name in special purpose steels

51 years of Fine steelmaking **STAINLESS STEELS**

STAINLESS • HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

Every Air Hose With This Trademark

Assures Long Operating Life

Air hose economy is not measured in feet per dollar. The only true yardstick of air hose value is *service hours.*

Because every BWH hose has been developed, tested and field-proven to give the best possible combination of strength, safety, flexibility and damage resistance . . . *you get maximum service life.*

Whatever brand of hose you are now buying, you are paying for BWH benefits — so why not start getting them — *now?*

Today, contact your nearby BWH Distributor.

CONCORD AIR

An extra quality, exceptionally rugged hose for toughest use on air drill and pneumatic service in mines, quarries and construction jobs. Non-porous tube resists heat and oil. High tensile cotton yarn braid reinforce carcass. Tough grey cover resists cutting, gouging, abrasion. 7 sizes from ½" 2-braid through 2" 3-braid. 200 to 300 lbs. working pressure. Maximum length 50'.

BAY STATE AIR DRILL

For heavy construction work in mines, quarries, tunnels and wherever large size hose is required for long service. Smooth black tube resists heat and oil. Carcass of strong, rubber-impregnated multiple ply woven duck. Rugged, heavy-gauge red rubber cover resists severe weather extremes, cutting, abrasion. 9 sizes stocked from ½" to 4". Working pressures from 175 to 225 lbs. Maximum length 50'.

AUROCHS AIR

For portable air compressors, jackhammers, rugged industrial and construction work. Smooth, black, non-porous tube resists heat and oil. Carcass: multiple ply, rubber-impregnated, rugged woven fabric. Tough black cover resists weather and abrasion. Stocked sizes: ½", ¾", 1". 200 lbs. working pressure. Maximum length 50'.

TIGER AIR

Lightweight, flexible hose for general industrial and medium air service. Smooth black tube resists oil and heat. Carcass is strong, lightweight multiple ply woven fabric. Tough, black cover resists abrasion. Stocked sizes: ¾", 1", 1½", 2". 150 lbs. working pressure. Maximum length 50'.

VIM AIR

For general industrial use, on compressors and pneumatic tools. Black tube resists oil and heat. Husky cotton yarn braids. Smooth, red cover resists weather, abrasion. 8 sizes stocked, ¼" 2-braid to 1" 3-braid. Working pressures 150 to 225 lbs. Maximum length 500'.

BULL DOG VARI-PURPOSE AIR

For a variety of jobs including handling of air, water, oil, gasoline, kerosene (not for paints, lacquers, lacquer-solvents). Black, synthetic tube resists oil and heat. Carcass is braided rayon cord, high strength, super flexible. Smooth, brown, tough synthetic cover resists oil, abrasion, sunlight. 11 sizes stocked from 3/16" one-braid to 1" 2-braid. Working pressures 200 to 300 lbs. Maximum length approximately 500'.

BWH
DEPENDABLE RUGGEDNESS

BOSTON WOVEN HOSE & RUBBER COMPANY

Distributors in all Principal Cities

PLANT: CAMBRIDGE, MASS. • P. O. BOX 1071, BOSTON 3, MASS., U. S. A.

For more information, write direct or use Reader Service post card.

The Best-known Name in Spinning-Frame Speed-up!

. . . Millions of spindles (more than 8,000,000) are today turning out more and better yarn through being equipped with Meadows Ball Bearing Tension Pulleys.

. . . End-down and "Monday Morning Band Trouble" can be materially reduced by the even tension Meadows keep on bands or tape at all times.

. . . And this increased quality and production is achieved at lower cost — because Meadows Ball Bearing Tension Pulleys use less power, and never drag due to lint or dirt.

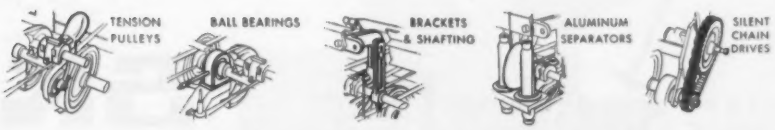
. . . Don't let old equipment pull down production and profits another minute. Investigate the possibilities of modernizing with Meadows Conversions. This Conversion consists

. . . of silent chain drive, ball bearing jack studs, individual driving pulleys, high-strength ground and polished shafting (mounted on heavy duty ball bearings), and ball bearing tape tension pulley assemblies

. . . which will increase output to the point where your old frames can be made competitive, both in quality and quantity of production, with new frames.

. . . Send us your inquiries. We will be glad to have one of our representatives survey and estimate your frames without obligation, within their territories.

We engineer and service each installation, design and manufacture all parts.



MEADOWS MANUFACTURING COMPANY • ATLANTA, GEORGIA

Representatives: JAMES P. COLEMAN, P.O. Box 1351, Greenville, South Carolina • WALTER S. COLEMAN, P.O. Box 722, Salisbury, North Carolina • MATTHEWS EQUIPMENT COMPANY, 93-A Broadway, Providence, Rhode Island • SAM HOGG, Atlanta, Georgia

SKF PIONEER in earning HASH MARKS FOR EFFICIENCY

Oil Cushion Ring Brake Type, heavy duty—provides effective damping action.

Cylindrical Type, medium duty—for use with wooden bobbins and paper tubes.

MILL	YEARS OF SERVICE
ARISTA MILLS	19
ELK COTTON MILLS	12
ERWIN COTTON MILLS	19
HARTSVILLE COTTON MILLS	17
INMAN MILLS	14
PACIFIC MILLS (LYMAN)	10
WASHINGTON MILLS	18
AMERICAN VISCOSE CORP.	11
TENNESSEE EASTMAN CO.	10

Here is a *partial* list of mills where SKF Bolsters are building up an impressive record for lasting economy.

HERE'S WHY:

SKF Bolsters minimize friction and effect average power savings of 15%. Twist is more uniform. Yarn breaking strength is greater. Ends down are less. Oil-throwing is eliminated. SKF Bolsters can be removed and replaced, when necessary, without renewing case or spindle blade.

Let SKF Bolsters start earning efficiency hash-marks in *your* mill. With the help of SKF engineers and the wealth of experience of spinning frame manufacturers, you can produce higher-quality, more salable fabrics at *lower production cost.*

7207

8 REASONS WHY SKF IS PREFERRED BY ALL INDUSTRY

integrity
craftsmanship
metallurgy
tolerance control
surface finish
product uniformity
engineering service
field service

SKF

SKF INDUSTRIES, INC., PHILA. 32, PA.—*manufacturers of* SKF *and* HESS-BRIGHT *bearings*

For more information, write direct or use Reader Service post card.

AHCOVAT DYES

High on the list of today's outstanding vat dyes is the large family of AHCOVAT DYES . . . quality dyes that do a quality job!

FLAVONE GC

An anthraquinone vat dye which will produce bright greenish-yellow shades with a superior fastness to light. This AHCOVAT dye has excellent fastness to kier boiling and bleaching. AHCOVAT FLAVONE GC works extremely well with AHCOVAT Jade Green in producing yellowish-green shades.

QUALITY • INTEGRITY

AHCO DYES

Ask for complete technical information and shade card.

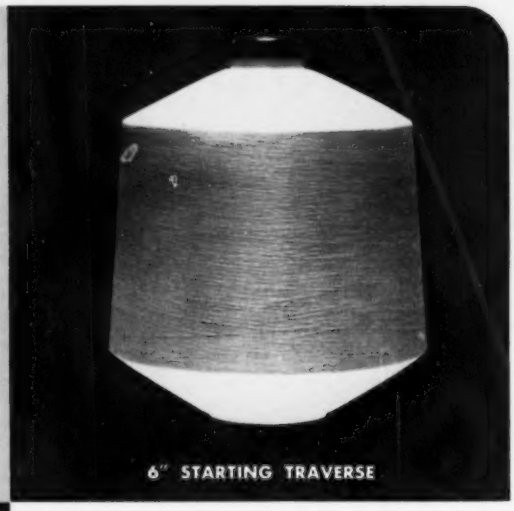
ARNOLD, HOFFMAN PROVIDENCE RHODE ISLAND

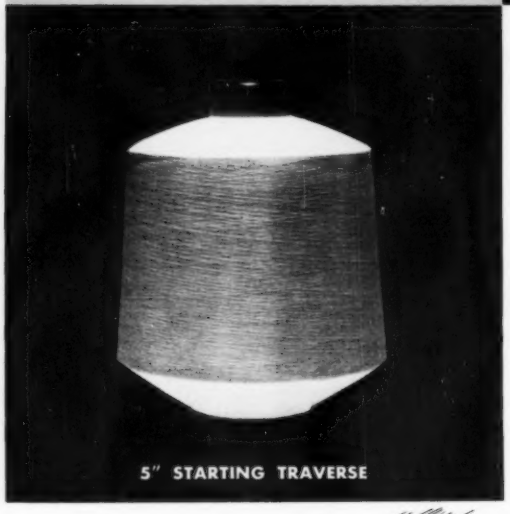
Associated with
Imperial Chemical Industries, Ltd.
(DYESTUFFS DIVISION)
England

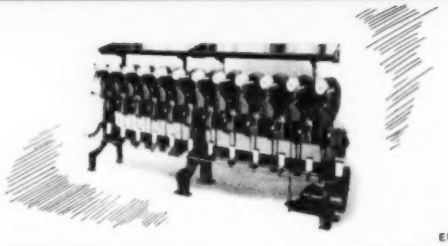
ARNOLD, HOFFMAN & CO., INCORPORATED • EST. 1815 • PROVIDENCE, R. I.

Offices: Charlotte, Cincinnati, New York, Philadelphia, Providence
Plants: Charlotte, N. C. Cincinnati, Ohio Dighton, Mass.

THE LONG
AND THE
SHORT OF IT


6" STARTING TRAVERSE


5" STARTING TRAVERSE



WOUND ON SAME MACHINE WITH SAME CAM

Using Pineapple Cone Attachment

It's the "long" of it, but not quite the "short", for a 4" starting traverse is obtainable with the same cam (5"), if only small diameter cones are required.

The Foster Model 75 is also flexible as to cone densities obtainable—anything from 40 to 70 by Durometer reading, simply by adjusting tension and pressure devices.

Other features include a slow starting device to prevent yarn strain — total enclosure of lubricated parts to prevent yarn soilage—and ball bearings on spindle and drive shaft. This standard Model 75 cone also has a convex base which prevents "nip-i-tis" and sluffing.

Send for Bulletin A-92

FOSTER MACHINE CO.

WESTFIELD, MASSACHUSETTS

SOUTHERN OFFICE—JOHNSTON BLDG., CHARLOTTE, N. C.
CANADIAN REPRESENTATIVE—ROSS WHITEHEAD & CO., LTD., UNIVERSITY TOWER BLDG., 660 STE. CATHERINE ST., W., MONTREAL, QUEBEC.
EUROPEAN REPRESENTATIVE, MUSCHAMP TAYLOR LTD., MANCHESTER, ENGLAND

FOSTER MODEL 75

FOR WINDING NYLON, RAYON, SILK AND COTTON THREAD YARNS

TURN FIBER WASTE INTO PROFITABLE PRODUCTS!

WITH THE

RANDO-FEEDER*

AND

RANDO-WEBBER*

HEAVY MATS

WADDING

INDUSTRIAL NON-WOVEN FABRICS

FELTS

HOUSEHOLD NON-WOVEN FABRICS

*T.M. Reg.
CURLATOR CORP.
ROCHESTER, N.Y.

Here is an entirely new process for utilizing fibers to produce a random or non-oriented web on a continuous basis. The web or mat—40 inches wide and weighing ½ ounce to 8 ounces per square yard—is suitable for further processing into felts, wadding, heavy mats, and non-woven fabrics. We invite inquiries from companies having facilities for developing finished products or who are now manufacturing such products by other means.

SOME OF THE FIBERS PROCESSED. To date waste fibers from reclaimed tire cord, napper flocks, heather waste, cotton linters, jute waste, garnetted cotton clips, Axminster loom waste, cotton, rayon and nylon mill waste and threads, wool noils, plasticized cellulose acetate and other similar materials have been processed.

SUGGESTED PRODUCTS. From these low cost fibers saleable products such as floor backing, rug cushions and backing, insulation, tapes, filters, laminate reinforcements, packing materials, felts, towelling, diapers, tissues and other products may be made.

TURN YOUR WASTE FIBERS INTO $$$'s. Write for new Random Web Process Bulletin 101 and for a demonstration of the processing of your fibers.

TEXTILE DIVISION
CURLATOR
CORPORATION
ROCHESTER 10, NEW YORK

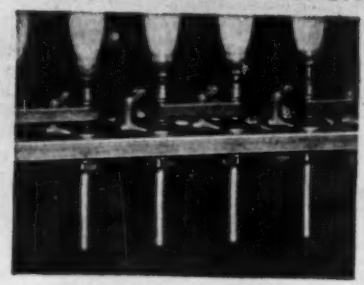
Curlator Corporation, Textile Division
513 Blossom Road, Rochester 10, New York

- ☐ Please schedule a demonstration
- ☐ Please make up samples from my own waste
- ☐ Please send Random Web Bulletin 101

NAME .....
COMPANY .....
ADDRESS .....
CITY .....

LESS FRICTION

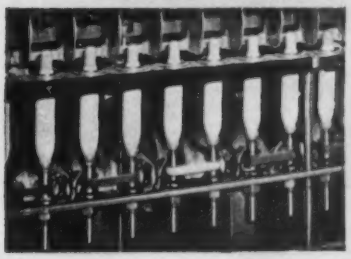
CUT BOLSTER WEAR up to 2/3!



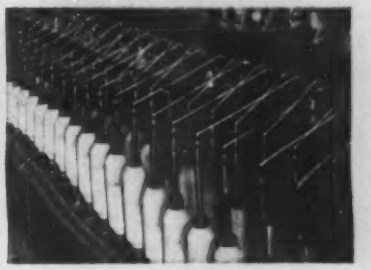
SAVE ON POWER COSTS TOO!

SINCLAIR

LONG BOLSTER LIFE



LESS THREAD BREAKAGE



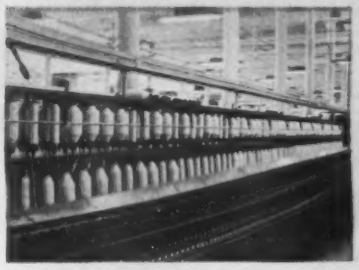
Mill records show that bolster wear may be cut as much as two-thirds by using Sinclair LILY WHITE Oil. This means long bolster life, fewer replacements — low maintenance cost. Also, eliminating package wobble caused by wear reduces thread breakage, gives better assurance of uniform quality of production and maximum output.

Another important advantage of reduced bolster wear is that power costs go down, too. For less wear means less frictional drag. And this lessened drag, multiplied by the number of spindles in the mill, can amount to a big saving in power requirement and cost.

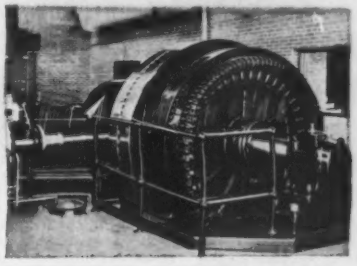
Sinclair LILY WHITE Oils, AX, BX, and CX are specially compounded for low friction loss and lowered power demand. They wash out readily. They are also effective rust preventives.

To save wear *and* power, use Sinclair LILY WHITE Oils.

HIGH QUALITY PRODUCTION

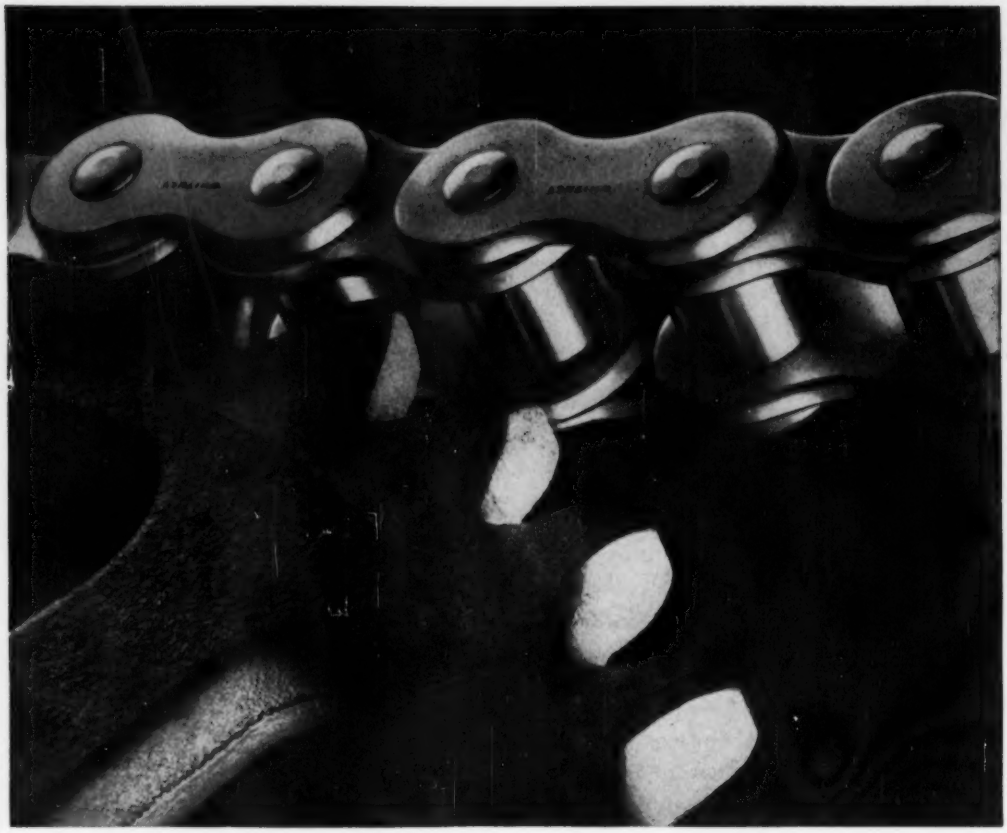


LOW POWER COSTS



LUBRICANTS for the textile industry

For lubrication counsel, see your nearest Supplier of Sinclair Products or write to Sinclair Refining Company, 630 Fifth Avenue, New York 20, N. Y.



A Portrait of Drive Efficiency and Savings

Whitney Chain Drives cut transmission costs, provide positive grip, assure product uniformity

Here's a close-up view of a Whitney Roller Chain engaging a sprocket tooth. Examine it carefully . . . by looking a little deeper, you can see power transmission efficiency and cost reducing design elements at work. Note the finely finished alloy steel rollers settling down to a positive, yet smooth engagement with the sprocket teeth . . . that's the all-steel combination, supplying the answer to countless drive problems.

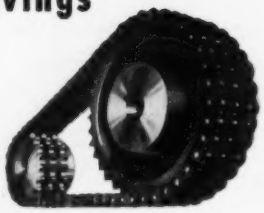
Here are some of the reasons why:

Positive Grip — Deeply seated in the sprocket teeth, Whitney Roller Chains transmit full rated horsepower without friction or slippage. This means constant machine output is maintained . . . highest transmission efficiency is always obtained.

Versatility and Adaptability — Because these roller chains operate on long or short centers, drive shafts clockwise or counterclockwise — separately or simultaneously, they simplify design problems, cut costs of complex drive mechanisms.

Quality — The acceptance of "Whitney" as a quality standard by designers of modern machines is the result of decades of chain making. Alloy steel parts are durably made — precisely assembled to stand up under the severest of operating conditions.

Whitney products are readily available through a nation-wide network of Whitney Distributors and Warehouses. Call the one nearest you for prompt service. For engineering assistance and catalogs write:



OTHER WHITNEY PRODUCTS

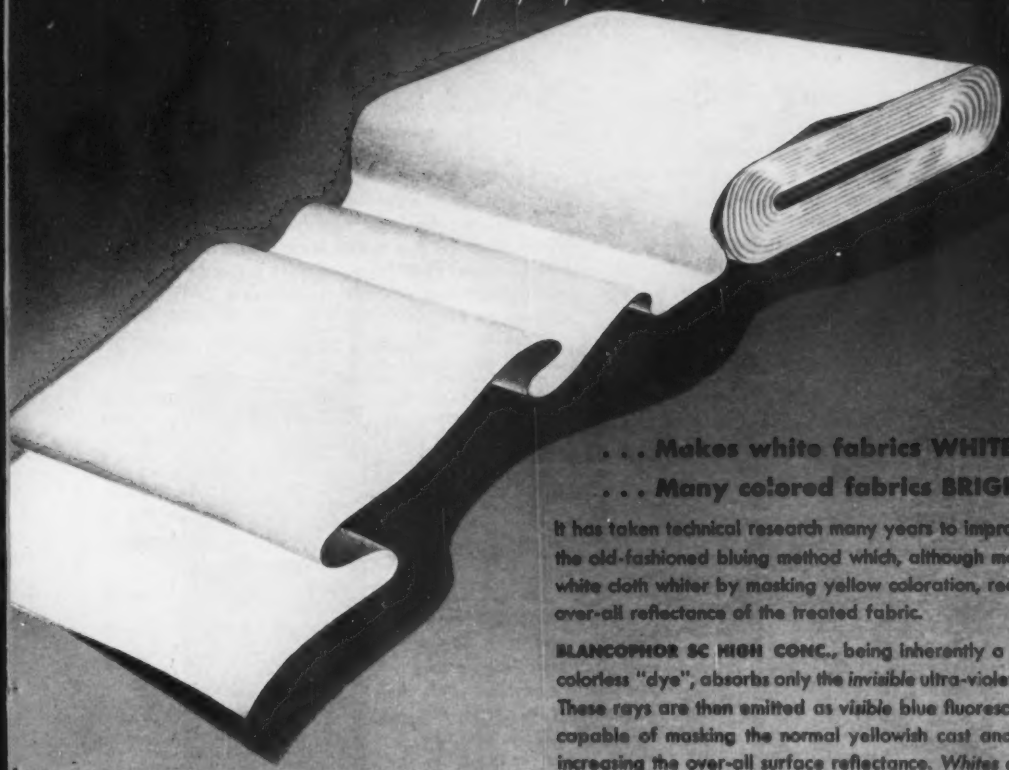
- Silent Chains — for smooth, high speed power transmission
- Conveyor Chains — for modern material handling
- Flexible Couplings — for positive but flexible direct drives
- Cut Tooth Sprockets — for smooth engagement, long life
- Whitney Woodruff Type Keys — for greater strength, easy assembly

WHITNEY CHAIN COMPANY

211 Hamilton Street, Hartford 2, Conn.

NEW! BLANCOPHOR® SC HIGH CONC.

An optical BRIGHTENING Agent



. . . Makes white fabrics WHITER

. . . Many colored fabrics BRIGHTER

It has taken technical research many years to improve on the old-fashioned bluing method which, although making white cloth whiter by masking yellow coloration, reduced the over-all reflectance of the treated fabric.

BLANCOPHOR SC HIGH CONC., being inherently a colorless "dye", absorbs only the *invisible* ultra-violet light rays. These rays are then emitted as *visible* blue fluorescence—capable of masking the normal yellowish cast and increasing the over-all surface reflectance. *Whites appear whiter—many colors appear brighter.*

BLANCOPHOR SC HIGH CONC., a substantive dyestuff, like the more common colored agents in this class, exhibits high affinity for celluiosic fibres and fabrics. It can be applied in the normal course of processing.

For complete technical data, kindly address Dept. 33.

ANTARA® PRODUCTS

DIVISION OF

GENERAL DYESTUFF CORPORATION

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Boston • Providence • Philadelphia • Charlotte, N. C. • Chicago • Portland, Ore. • San Francisco

IN CANADA: Chemical Developments of Canada Limited, Leaside, Toronto 17

MAKE YOUR BALING A *Profitable* OPERATION *with a* LOGEMANN BALER

Tell Us Your Baling Problems

THAT's the best way to get the right answers to low-cost time-saving baling. During our sixty years of building balers for the textile industry we've solved many a baling problem for factory owners. Our engineers know how to make baling operations pay their own way in time and labor-savings, in speedier, more reliable handling of bales, in lower maintenance costs. Many Logemann balers have been in profitable operation since the turn of the century — evidence of the ruggedness, durability, and long service life of Logemann baling presses.

In the interests of better baling operations in your factory, find out what Logemann balers can do for you. Tell us what your specific problem is. We'll gladly show you how it can be answered in terms of better bales at lower costs and make a specific recommendation based on your requirements. Write for information today.

LOGEMANN BALING PRESSES

We have furnished many deep box Hydraulic Balers to the synthetic fiber industry where controlled bale weights and densities are most important. In every instance, Logemann Deep Box Hydraulic Balers have proved highly satisfactory.

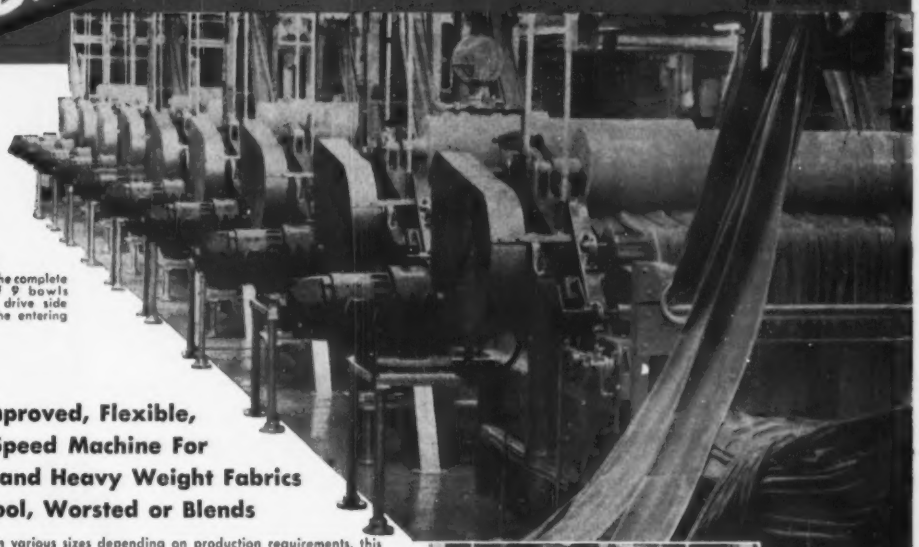
Open balers for finished goods may be hydraulic or power-driven. Give platen dimensions required, maximum height of pile to be compressed, number of bales per hour, when requesting information on open balers.

Box balers for waste may be obtained in either the hydraulic or power-driven type. Mention the kind of waste to be baled, how much in how many hours, the preferred size or weight of bale when inquiring about box balers.

LOGEMANN BROTHERS CO.

3100 West Burleigh Street • • • Milwaukee 10, Wisconsin

The Heat Line's NEW LAXLOOP CONTINUOUS WASHER



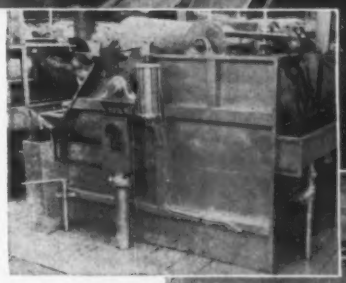
Showing the complete range of 9 bowls from the drive side and on the entering end.

An Improved, Flexible, Vari-Speed Machine For Light and Heavy Weight Fabrics of Wool, Worsted or Blends

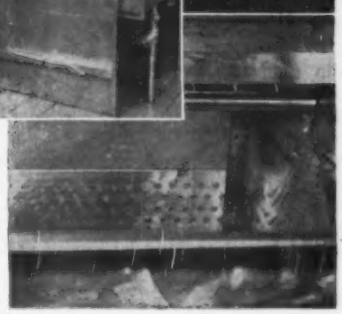
Made in various sizes depending on production requirements, this newly developed multi-dolly continuous washer offers many advantages in ease of operation, economy of water, simplified automatic synchronization, accessibility and reduced labor.

Among the many improvements over existing washers are:

1. Stainless steel construction throughout.
2. AC-DC drive with rheostat speed control — no side shaft to prevent easy accessibility. Variable speed according to number of bowls and operating conditions.
3. Positive counter current flow, with constant uniform predetermined liquor level in each tub. Made possible by R & L stainless steel Flooded Suction Low Head Pump.
4. New shape of tub for smoother operation and fewer stops for rethreading.
5. Each unit is kept in step by tensionless compensators. Cloth is tensionless throughout entire range.
6. Folding or plaiting cleat rolls provided for smoother operation and uniform treatment.
7. Provision can be made for flow of liquor to stop automatically when machine stops, effecting increased hot water savings.
8. Cloth fully protected against damage by electric stop motions.



Individual tub feed line of back water box and flexible hose through which water is pumped from weir compartment to next machine.



Looking down into stainless steel suds box. Perforated plate is adjustable weir to regulate depth of water in tub.

We will be glad to make recommendations on your particular washing problems.

RIGGS AND LOMBARD, INC.

FOOT OF SUFFOLK STREET, LOWELL, MASS.

[redacted]

The Heat Line

A complete line of modern equipment for the successful handling of present day wet-finishing, carbonizing and dyeing requirements.

WOULD YOU PLAY A TOURNAMENT *with one club?*

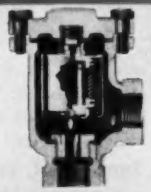
But on the golf course you can see the results. In steam hook-ups on the other hand, bad performance may go undetected for years, even though the traps apparently are working properly.

If you are in competition, it is certain that you cannot get the lowest fuel costs and highest production rates from steam heating and process equipment by "standardizing" on one type of steam trap for all purposes in your plant.

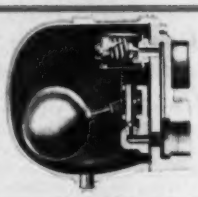
The four principal types of Sarco steam traps are illustrated at the right. They are available in a wide range of sizes and steam pressures and each has a specific function. The trick is to get the right trap on every steam job and every steam line in your plant. This can be done by calling in the Sarco Representative near you, or by asking for Sarco Catalog No. 1600 which gives recommendations for trapping all kinds of equipment, both indoors and out.

STEAM TRAPS ARE LIKE THAT...

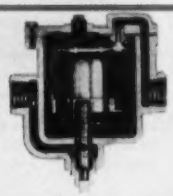
Thermostatic Trap



Float-Thermostatic Trap



Bucket Trap



Liquid Expansion Trap

312

SARCO SAVES STEAM

SARCO COMPANY, INC.

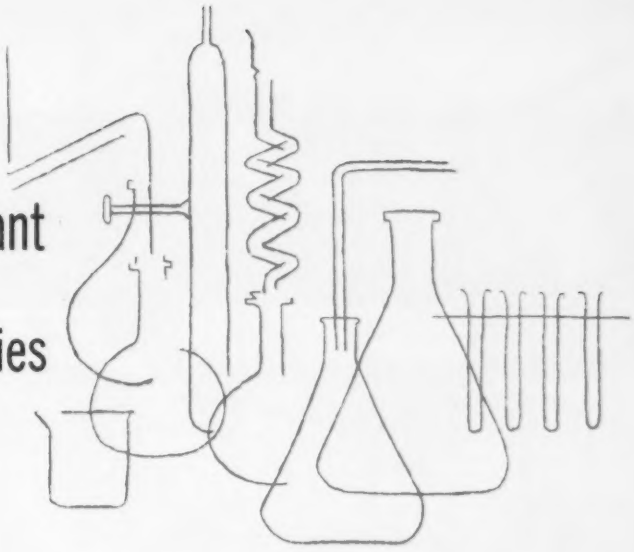
Represented in Principal Cities

Empire State Building, New York 1, N. Y.

SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

check your textile chemical needs with Warwick's important series of chemical specialties for the textile industry



Warwick technical advisors, with their wide knowledge of textile chemicals and processes, are available for consultation.

- ANTILUSTROLE* dullers
- APPRAMINE* cationic softeners
- APPRETOLE* anionic softeners
- EUMERCIN* mercerizing assistants
- FORMASET* textile resins
- IMPREGNOLE* and NORANE* water repellents
- LANOLE* tar and grease removers
- ORGANOSOL coatings for textiles and paper
- PLASTISOL for coating and molding
- SETOLE* textile resins
- SULFANOLE* synthetic detergents
- WARCOFIX* color fixatives
- WARCO GFI* gas fading inhibitor
- WARCOLENE* finishing oils
- WARCONYL* fire retardants
- WARCOSAN* wetting and rewetting agents
- WARCOSOL* penetrants
- WEAVE-LOK* non-slip finish

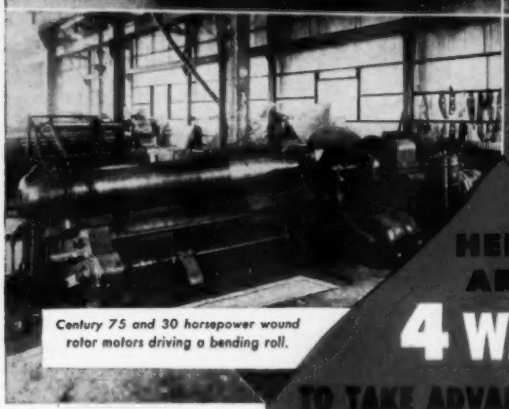
SUNTONE*
pigment printing colors for textiles and plastics

WARWICK
CHEMICAL
COMPANY

WARWICK CHEMICAL COMPANY, DIVISION Sun CHEMICAL CORPORATION 10th STREET and 44th AVENUE, LONG ISLAND CITY, NEW YORK
*REG. U. S. PAT. OFF.

Two 125 horsepower Century wound rotor motors driving high speed turbine compressors.

Century 100 horsepower wound rotor motor driving a refrigeration compressor.



Century 75 and 30 horsepower wound rotor motors driving a bending roll.

Century wound rotor motor.

HERE ARE 4 WAYS TO TAKE ADVANTAGE OF THE FLEXIBLE POWER OF Century WOUND ROTOR MOTORS

Meet Load Characteristics for:

1. Adjustable varying speeds control variable process and other load conditions.
2. Reversing direction of operation of heavy loads — as in lift bridges.
3. Syncro-speed, multiple drives used where two or more operations must be coordinated.
4. High starting torque with low starting current — such as reciprocating compressors, steel plate bending rolls, etc.

Century wound rotor motors are built in sizes up to 400 horsepower and are available in open protected and splash proof frames. In addition, Century builds a complete line of AC and DC motors in sizes from 1/6 to 400 horsepower for all popular requirements.

Specify Century motors for all your electric power needs.

Century Electric Company is celebrating its 50th year in the electrical industry.

ALTERNATING CURRENT MOTORS

POLYPHASE
Squirrel Cage Induction— 1/6 to 400 H.P.
Wound Rotor Motors— 1 to 400 H.P.
Synchronous Motors— 20 to 150 H.P.

SINGLE PHASE
Split Phase Induction— 1/6, 1/4, 1/3 H.P.
Capacitor—1/6 to 20 H.P.
Repulsion Start, Brush Lifting, Induction—1/2 to 20 H.P.

DIRECT CURRENT MOTORS
1/6 to 300 H.P.

GENERATORS
AC, .63 to 250 KVA
DC, .75 to 200 KW

MOTOR GENERATOR SETS
AC to DC, AC to AC
DC to DC, DC to AC

Open Protected, Splash Proof, Totally Enclosed Fan Cooled, Explosion Proof.

Ball Bearing motors are factory lubricated for several years' normal service. Bearing housing construction permits easy re-lubrication when unusual service demands it.

CENTURY ELECTRIC COMPANY
1806 Pine St. • St. Louis 3, Missouri
Offices and Stock Points in Principal Cities

Century C MOTORS

58 Countries all over the World have Service and Parts facilities for Hyster Lift Trucks

EVERY HYSTER DEALER IS A LIFT TRUCK SERVICE AND PARTS STATION. He has factory-trained mechanics skilled in maintenance and repair. He has an adequate supply of genuine Hyster parts. His service is quick, courteous, efficient.

Hyster Lift Trucks (7 models) range in capacity from 2,000 to 30,000 pounds. Hyster *Salsbury* Turret Trucks (4 models) for horizontal materials handling.

Call your nearest Hyster dealer when you need fast service and parts delivery.

HYSTER® COMPANY

THREE FACTORIES

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1822 NORTH ADAMS STREET.. PEORIA 1, ILLINOIS
1022 MEYERS STREET..... DANVILLE, ILLINOIS

BECAUSE a tremendous amount of hauling is eliminated with a Cleveland Tramrail system at one of their mills, the executives of Fieldcrest Mills, Division of Marshall Field & Company, Inc., with main offices in Spray, N. C., are enthusiastic over their overhead materials handling equipment in this mill.

Cleveland Tramrail is used in many departments. It has been found especially advantageous for the handling of beams. Since it is desirable to keep 70 to 80 warp beams ahead of the slashers, considerable space is required for their storage. Cleveland Tramrail enables them to store the beams three high when space is lacking and thereby get more beams into a given area. Also any beam can be picked up and moved direct to slashers without moving other beams on the floor.

It now takes about one-fifth the time formerly required to place beams into a slasher. It is much easier on the men, too! Possibility of strained backs is removed and safety is greatly improved.

Cleveland Tramrail is aiding dozens of textile mills accelerate production, cut costs and better working conditions.

GET THIS BOOK!
BOOKLET No. 2008. Packed with valuable information. Profusely illustrated. Write for free copy.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
8466 East 287th St. Wickliffe, Ohio

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT

SKILLED HANDS OF THE LOOM ENGINEER

now go to work right in YOUR PLANT!

Wilson's unique Loom Rebuilding Methods allow Modernization without excessive profit losses!

The Emil V. Wilson Company is a unique organization of specially skilled loom rebuilding engineers, fully experienced in the rebuilding and modernization of looms. The work is done quickly and efficiently, right on the weave room floor. On jobs involving large numbers of looms a completely rebuilt loom can be returned to production every 30 to 40 minutes! No longer is it necessary to strip your looms away for rebuilding, thus losing a big portion of valuable production. It will pay you to investigate Wilson's unusual "assembly line" methods of Loom Rebuilding. A telephone call or letter will bring you full particulars on how this new plan can save you hundreds of dollars when you modernize your weave room.

Emil V. Wilson Co., Inc.
209 STOKES BUILDING TELEPHONE 3-3643
Greenville, South Carolina

LOOM MODERNIZATION SPECIALISTS

Throw the price lists away

WHEN FIGURING YOUR PAINTING COSTS

Yes, we're sincere about it . . . "Throw the price lists away". They don't mean a thing. And here is positive proof.

Your price lists may show that Barreled Sunlight costs a few cents more per gallon than other good paints. You would think it might cost more to do a maintenance paint job with famous Barreled Sunlight, but that is wrong. It won't.

Why? Because when properly thinned a five-gallon can of Barreled Sunlight gives you six gallons ready for the brush. So you save from the very start by buying less paint.

But that is only 20% of the story. The big factor . . . the 80% of the cost of any paint job . . . is *in your labor*. This is where Barreled Sunlight, with its faster flow, better coverage and greater yardage per man hour really saves you money.

This simple test will prove it! Compare a gallon of Barreled Sunlight with a gallon of any other paint . . . *paint it on a wall*. Compare them for appearance, square feet of surface covered *and time involved for application.*

Such a test will convince you that Barreled Sunlight can give you a better-looking, longer-lasting paint job for less money than any other paint.

BARRELED SUNLIGHT PAINT CO.
20-B Dudley St., Providence, R. I.

Barreled Sunlight
Paints

In whitest white or clean, clear, pleasing colors, there's a Barreled Sunlight Paint for every job

IT ALWAYS COSTS MORE NOT TO PAINT!

It's the CONDITION ON ARRIVAL that sets the stage for your customers' feeling toward you as a supplier. Merchandise in factory-fresh condition is appreciated by the recipient.

Gaylord Boxes are protecting the products of many of the country's largest manufacturers — and have been for years.

GAYLORD CONTAINER CORPORATION, General Offices: **ST. LOUIS**

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they are opening up new accounts

"News of beautiful stocking fabrics travels fast. And they can meet the demand because they're getting 15 or more dozen pairs every 8 hours with those new Reading Machines."

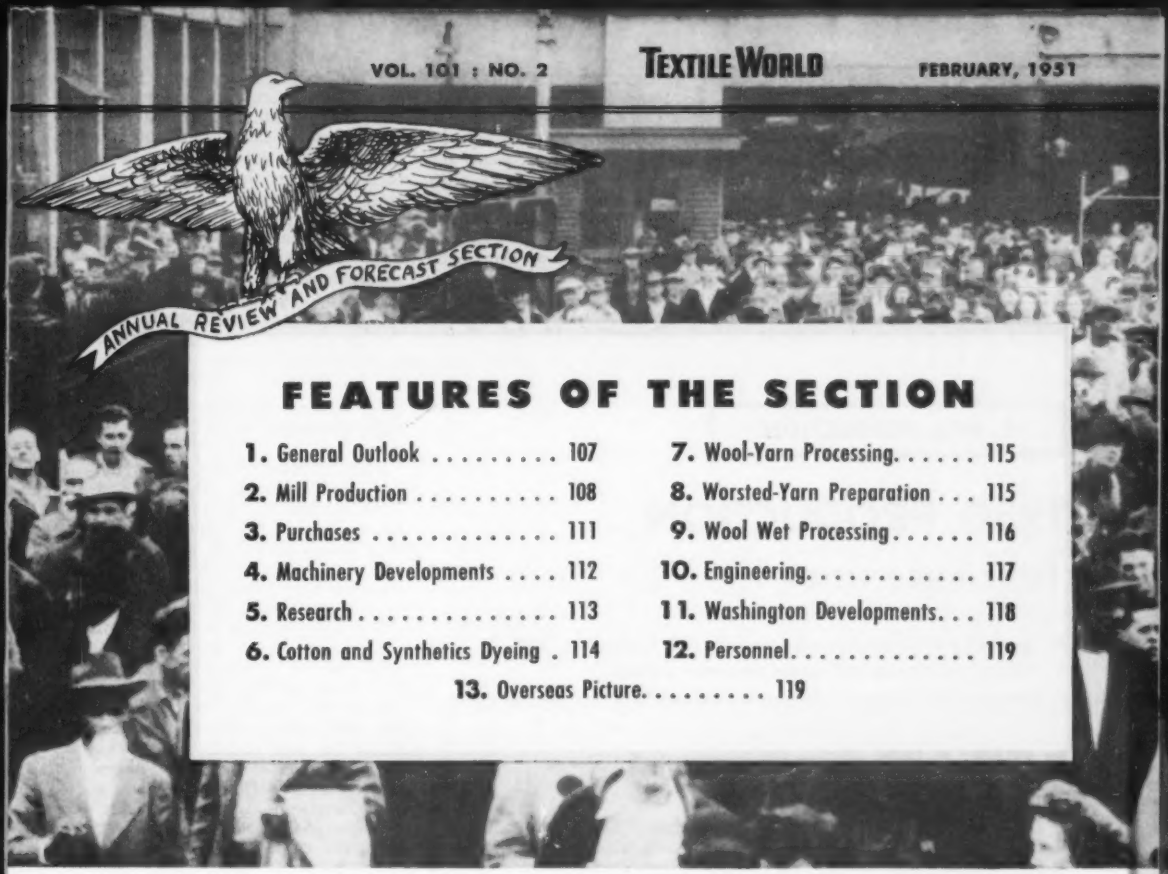
• • •

The new "Reading" Machines are producing full-fashioned stockings of superior quality and at higher speeds than ever before possible. Many exclusive "Reading" features give higher precision in operation and greatly simplified control . . . 30 sections . . . 51 and 60 gauge.

TEXTILE MACHINE WORKS • READING, PENNA.

The "READING"
Full-Fashioned Knitting Machine

VOL. 101 : NO. 2 TEXTILE WORLD FEBRUARY, 1951



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1. GENERAL OUTLOOK

Mills Gird Themselves for **ALL-OUT PRODUCTION**

By **RICHARD C. SCOTT**, *New York Editor, TEXTILE WORLD*

Textile World's Textile-Mill Activity Index

(1923-1925 average = 100)

1929 115	1936 124	1943 189
1930 89	1937 125	1944 177
1931 93	1938 103	1945 173
1932 83	1939 132	1946 187
1933 104	1940 142	1947 182
1934 90	1941 188	1948 180
1935 105	1942 198	1949 159
	1950 197	

ONCE AGAIN American textile mills have been "called to the colors," and once again the results in yarn and fabric production and finishing are going to be outstanding. The year 1951 will see the textile industry through a very busy year indeed.

In 1951, the gears of our common effort will start to enmesh in Washington and other world capitals. As shortages, directives, allocations, price controls, and excess-profits taxes return to mill men who just five years ago thought they were through with them, textile production will continue to rise. The new records to be set will be achieved through military orders this year, and for as long as is necessary.

Last year, 1950, the over-all mill activity index was 197, as against World War II's high of 198 back in 1942. Such an index is very good. It is 24% higher than the 1949 activity index, and almost 10% better than the former "banner year" of 1948.

In these days of fast-moving events, no man can predict the future in its details. We know that textile-mill activity will rise and fall with the general national economy. That is easy to figure out. The question is whether we can continue to rise without the falls, into 1952, 1953, and 1954.

National credit solvency may eventually be our big problem. Sometimes the intangibles are harder to lick than the tangibles. But as long as our productive system remains virile and expanding, inflation can be defeated along with small and unworthy ideals.

Four things that a mill man can do this year specifically are (1) watch his manpower situation and develop new sources of labor as defense plants and military service start to take away valuable men, (2) initiate basic-training programs for teaching manual skills to untried help, including women, (3) improve working conditions around the mill rather than rely on patriotism alone to hold men to their jobs, and (4) keep up with latest developments in textile manufacturing, both in machinery and in fibers, as they come along each month.

At the moment, standards of living will be lowered through taxation and shortages, but not any more than necessary unless the warm war gets hotter. Meanwhile we are putting our productive capacity in fighting trim.

Textile men will play a big part in this conversion effort of 1951, and should look far enough ahead and plan accordingly for the combined benefit of their mills, our country, and the free economy in which we thrive.

2. MILL PRODUCTION

1950 PRODUCTION

Tops Records of 1941-45

- Year-end production gains are from 8 to 15% higher than 1949
- Military commitments end normal production patterns
- Consumer price-increase resistance in 1951 will have little over-all effect

By ROBERT P. ULIN, *McGraw-Hill Economics Staff*

TEXTILE PRODUCTION in 1950 ran far ahead of 1949, and even ahead of over-all records made during World War II. The TEXTILE WORLD index of textile-mill activity, based on poundage of fiber consumed, reached 197, a new post-war peak. Cotton broad woven goods showed a gain of over 10% in yardage produced. Output of rayon goods in yardage was up about 15%. And the woolen division turned out 8% more fabric than in 1949.

In the first part of 1950, the industry followed the pattern outlined a year ago in this annual February forecast: "Some decline . . . but no huge inventory reductions and severe cutbacks in production, such as occurred in 1949." Production did slump from the high first-quarter rate. In the second quarter, output of cotton broad woven goods was off 2%; rayons, 6%.

Prices dipped too. Cotton goods were off only 4% on the average, although sensitive items, like print cloths, dropped 15% or more. Some rayon constructions fell 10%. But there was no significant decline in either production or prices of woolen goods.

For the industry as a whole, the readjustment was relatively mild. And it did not last long. By June the markets had firmed. Production and prices were already heading up again before hostilities broke out in Korea. If there had been no war, the year's production would still have topped 1949.

But Korea put an end to normal production patterns. By September, production of cotton goods was up 15% from the May low. Output of woolens had jumped 13%, and rayons 9%. Price increases became fantastic. Before the year ended, print cloths were selling more than 40% above May quotations. Cotton goods, as a group, averaged about 25% higher. Woolens and worsteds rose 25% to 30%. Rayons increased close to 10%.

Two factors accounted for this wild situation. The first was "scarce buying," inventory building by merchants and consumers in anticipation of future shortages. The second factor was a sharp rise in raw-material costs. Short crops of wool and cotton, combined with a general war-inspired rise in the world commodity markets, made it clear that finished fabrics must soon cost more.

As the year closed, there were signs

that the rise had gone too far. Apparel store sales were only 5% above 1949. But store inventories were up over 10%. And markdown sales began before Christmas.

1951 PICTURE. Here is the 1951 outlook by divisions of the industry:

Cottons: Many mills are booked through the first qaurter as this is written. And some orders for cotton print cloths have been placed even further ahead. These orders represent a gamble on the part of converters and retailers, who are hoping that after-Christmas sales and a big Easter season will keep inventories from becoming unmanageable. If not, there may be some temporary weakness in cottons sold to the apparel trade. Total production of cotton and rayon cloth (less exports) is running over 80 yd. per capita, far above any recent year. So supplies could pile up rapidly if retail sales continue to lag.

The market for heavier cotton constructions seems sure to continue strong. At least 300,000,000 yd. of cotton cloth must be delivered to the army in 1951, mostly in the first half-year. Aside from these orders, there will be increasing demand from industrial consumers. For example, rising industrial production and shortages of paper indicate strong demand for cotton bagging.

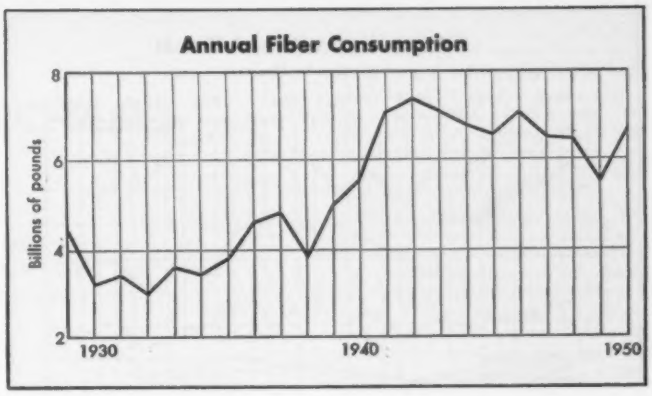
The automobile industry will be an important exception to the trend of increasing demand. Tire-cord shipments showed the greatest rise of any cotton fabric from 1949 to 1950. But a sharp drop now seems sure as auto production is cut back under the defense program. However, in the next few months, weakness in the markets for cotton clothing and for tire cord will probably be balanced by increased military takings.

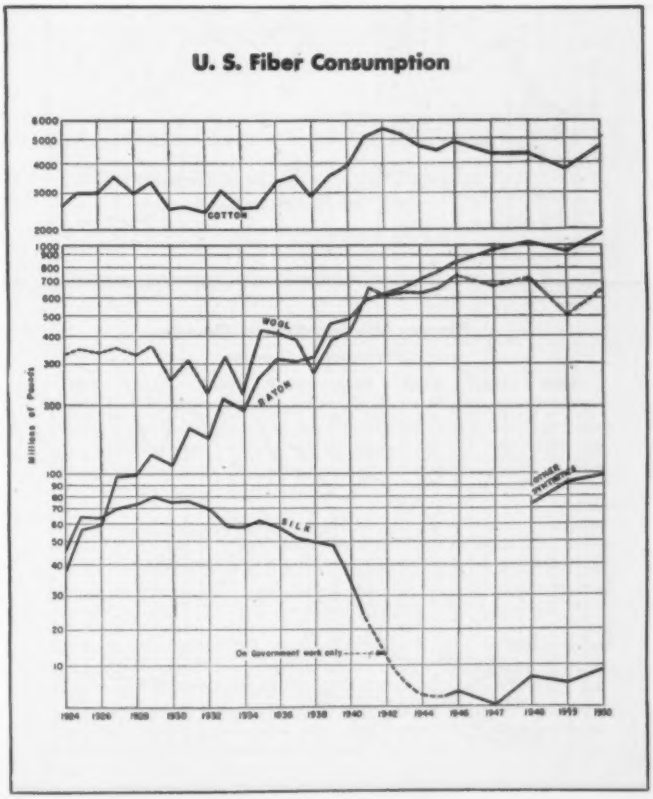
Indeed, by summer the problem is likely to be one of finding enough cotton to meet demand. By then military takings will be substantial. Industrial use generally will be growing. And as incomes rise, consumers will spend more freely on cotton clothing despite high prices.

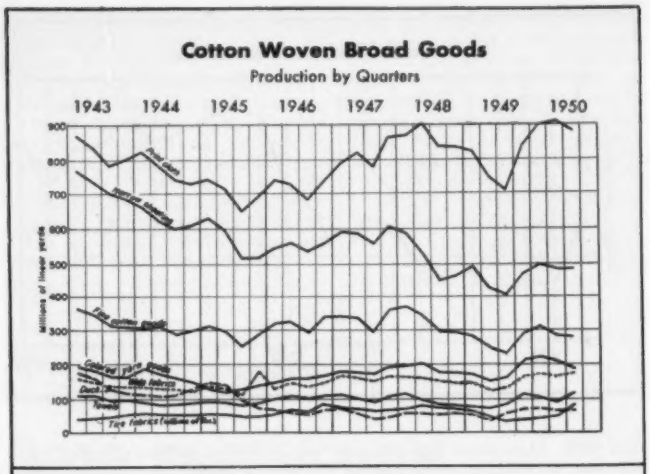
The industry has enough cotton-type spindles to push production even higher than in recent months. But until the new cotton crop comes in, output will be limited by the tight supply of raw cotton. And workers may also be hard to find as defense plants take more of the available manpower.

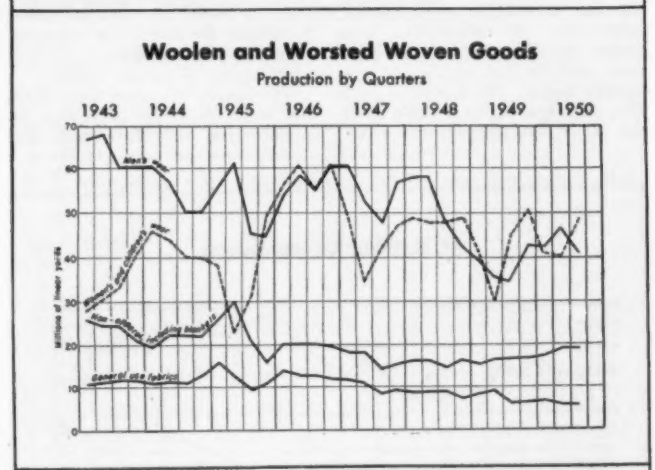
Rayons: Biggest production gains in 1950 were shown by the staple-fiber division. Output of acetate staple more than doubled, with viscose up over 60%. Main reason was the soaring price of wool, which encouraged substitution of synthetics. Even greater demand is expected in 1951, since wool, in short supply, has gone steadily higher. All the rayon-staple fiber produced will be gobbled up by the carpet manufacturers and makers of men's and women's suitings. The potential market for these spun fabrics is probably the best in the entire textile field. But staple-fiber output is already close to current capacity.

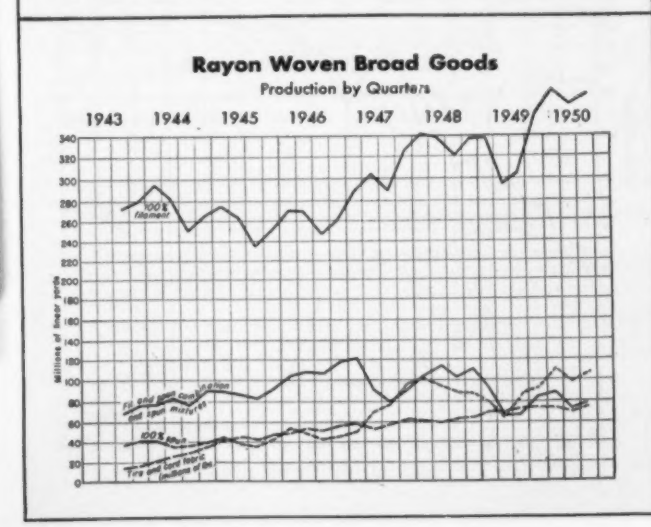
The market for rayon dress goods and piece goods has been slow for almost a year now. Inventories have











backed up all the way to the mill level. And military orders are relatively small. Prices never jumped as much as for cotton goods. Rayon dresses, for example, now undersell cottons. So a pick-up could be under way by spring. Later in the year, rayon weavers may face the same problems as the cotton mills: that is, not enough yarn or workers to go around.

Production of rayon tire cord is unlikely to drop as much or as soon as that of cotton cord. The tire makers have always favored the lower-priced and more uniform rayon product, and might take near-capacity output for some time.

Woolens: Wool consumption in 1950 recovered to the level forecast here a year ago: about 4 lb. per capita. This figure was in line with other years of normal prosperity. However, not all the woolen and worsted fabric produced moved into consumer hands. Retail stocks of woolen clothing are still heavy. And with higher prices announced for spring, it seems doubtful that business will pick up by then.

Raw wool is so scarce and expensive that there is little chance of mills cutting prices. If clothing sales continue to lag, the result will be lower mill sales to the apparel makers. But any decline will be offset by government purchases of woolen cloth for the stockpile, plus increased orders for uniforms. The volume of this business is sure to be relatively large, although timing is uncertain. Present indications are that at least 30,000,000 yd. of woolen cloth will be purchased by the armed forces in 1951.

Eventually, woolens seem sure to boom for the same reasons they did in World War II. Higher prices for men's and women's suits will be no obstacle if consumer incomes are swollen and if fewer durable goods are available. And men in service need considerably more all-wool clothing. But the extent of the boom for woolens will be less than in World War II because of the rise in output of synthetics.

Knitwear: Hosiery production in 1950 topped 1949 by an estimated 10%. Full-fashioned hosiery accounted for almost nine-tenths of all output. The big question for 1951, of course, is how much nylon will be available for civilian use and how much will be taken for military purposes.

Production of warp- and circular-knit products gained about 15% in 1950. Here again, the 1951 production total will depend largely on how much cotton, rayon, and nylon are available once the military program is in full swing.

3. PURCHASES

1950 MILL PURCHASES
Hit All-Time High

- Second half of year outstrips earlier expectations
- Material shortages appear to plague mill buyers
- 1951 purchasing problems will be more difficult

By C. W. BENDIGO

GREATLY ACCELERATED mill activity, price increases, and impending shortages all contributed to make mill purchases in 1950 the highest ever in dollar volume. Unit purchases, however, were probably no greater than they were in 1948, since 1950 prices were somewhat higher as a whole than they were in 1948.

The TEXTILE WORLD index of 399 for 1950 (1929 equals 100) compares with 367 for 1949 and 394 for 1948. This simple figure, however, hides a most unusual year of activity.

A year ago we said, "As we see it, in 1950 there will be a slight adjustment from the high level of textile activity and purchases that prevailed as the year turned. This downward adjustment may be quite small. If it should be sharp, which we doubt, there must be a comeback later. In either case, the net result at the year's end will be that the volume of purchases by mills in 1950 will be very close to the volume in 1949."

When we made this prediction, we did not foresee the Korean war. Actually, the year started out much as was indicated; but in the second half of the year, mill activity and mill purchases assumed the fervor of World War II.

The simple figure 399 also does not show diverging rates of activity in the various branches of the industry. It reflects but does not show that actual purchases by mills of spinning and weaving equipment was less in 1950 than it was in 1949. It does not show that the amount of finishing equipment purchased by mills was about equal to that bought in 1949.

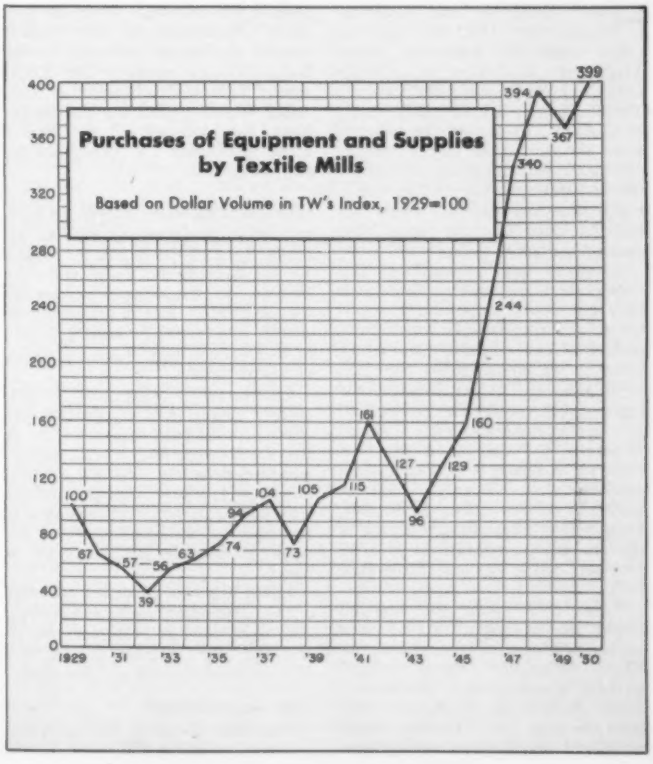
The greatest activity for the year was in the purchase of supplies and accessories, with the second greatest activity being in the purchase of auxiliary equipment (the most active field here being in materials handling). Purchases of knitting machines were about 20% more than in 1949.

The simple figure 399 also does not show the problems mills had in obtaining raw materials—that is, the shortages of synthetics and wool and the threatened shortage of cotton. The figure indicates only the over-all dollar volume of purchases. These purchases, however, were influenced quite directly by availability of fibers.

LAST-HALF ACTIVITY. It is understandable why mill purchases of major pieces of equipment were not so great for the year as a whole as were purchases of smaller items, such as supplies. It was impossible for large machines to be built at a rate during the second half of the year fast enough to offset declining activity during the first half.

At the turn of the year, it was hard for some of us to recall accurately the conditions that prevailed during the first few months of 1950. During those few months—and during a brief period the year before—the textile industry had returned to its normal ups and downs. There is no question whatever now that activity will be heavy in 1951 or that purchases will make another new record. Nothing can prevent a new high from being established in 1951; most items that a mill buys will become increasingly scarce and higher in price—as everyone knows.

The most important thing that is needed for mills in 1951 is a recognition by the federal government that textile products are essential—essential not only for the military but for civilians. Textile mills must be given priorities to be passed on to their suppliers if both the military and civilians



are not to suffer from a lack of textiles. We are concerned here only with supplies and equipment, not with fibers. The fiber situation is a story in itself.

The aluminum curtailment order is going to hurt, particularly since the industry is using more and more equipment and supplies utilizing this material. The industry also is utilizing a larger number of instruments than ever before, with many processes entirely dependent upon instruments. If instruments are denied the industry in the near future as they were during the last war, the effect could be quite serious.

Some textile mills are already finding that sources of supplies to them are being cut off, principally from suppliers who have major commitments to other industries. Mills are also finding that some of the suppliers who cater only to the textile industry are having serious problems, particularly in regard to materials. With the confusion already evident and the greater confusion to come, purchasing problems are going to increase.

The year 1951 will be a difficult one, regardless of the war tempo.

4. MACHINERY DEVELOPMENTS

1950 Shows Point Up MACHINERY ADVANCES

- *New and improved equipment introduced by almost every manufacturer*
- *More handling functions incorporated into machine operation*
- *Larger packages and increasing use of electronic equipment in evidence*

By WILLIAM A. NEWELL, *Managing Editor, TEXTILE WORLD*

Highlights of the textile machinery year 1950 were the two major shows—the American Textile Machinery Exhibition in Atlantic City, N. J., in May and the Southern Textile Exposition in Greenville, S. C., in October. In one or the other of these shows, virtually every machinery maker introduced or showed for the first time publicly several new or highly improved machines which they had developed to meet the growing demand for more production.

So many new or improved machines, parts, and supplies were shown that it is almost impossible to select the most important. However, a report of all new machinery and equipment shown appeared in the July, 1950, issue of TEXTILE WORLD, and reprints of the report may be obtained by writing the Editor, TEXTILE WORLD, 330 West 42nd St., New York 18. A report of new equipment exhibited at the Greenville show appeared in our November, 1950, issue, along with a comprehensive review of all new equipment introduced from October, 1949, through September, 1950.

Taken as a whole, the new machinery and equipment of 1950 point up the development of several trends. Much equipment is being designed to help eliminate the "positioning" factor of handling discussed in this issue on page 136. Handling equipment and operations are being incorporated into machines, as in the pin-board attachment for the Abbott winder, the bobbin conveyor for the Barber-Colman spooler, the Unifil winder (still in development at Universal Winding Co.) for the Draper loom, the cloth-roll lift for Mount Hope Machinery Co. cloth-handling machinery, etc.

OTHER TRENDS. Larger packages are being produced, as by the hydraulic lap-pressure system for pickers by Saco-Lowell, the 14-in. coiler by Whitin, etc. Finishing ranges are being designed to handle comparatively smaller lots in small finishing plants, or to handle a wider range of fabrics, as narrow fabrics.

Greater use is being made by machinery makers and equipment suppliers of electronic equipment, as in the C&K electronic let-off, various moisture-detecting control instruments, and others. Drafting systems seem headed in the direction of greater versatility for the handling of a wider range of fiber lengths alone or in blends.

Listed below, by processes, are some of the outstanding machines or assemblies announced in 1950, with the issue and page number of TEXTILE WORLD in which each was described:

Yarn manufacturing

Fluid drive for mules, Johnson & Bassett Co., Jan., p. 130

Waste machine, Kitchman & Dixon, Feb., p. 164

Worsted-processing equipment, Stellite American Corp., Feb., p. 176

Sueco conditioner, Kearny Machine Co., Apr., p. 147

Oil-mist spray, Bachmann Uxbridge Worsted Corp., Apr., p. 148

Cotton comber, Terrell Machine Co., Aug., p. 172

Ball-bearing spindle, H&B American Machine Co., Sept., p. 137

Nylon crimp-setter, Turbo Machine Co., Nov., p. 178

Rando-Webber and feeder, Curlator Corp., Dec., pp. 162 and 164

Lap-pressure system, Saco-Lowell Shops, July, p. 105

Builder motion, Draper Corp., July, p. 104

Universal worsted spinning frame, McGlynn Flays Industries, July, p. 106

Bird universal drafting system, Collins & Aikman, June, p. 89

Pacific converter, Warner & Swasey Co., July, p. 106

Automatic sandwich blender, Proctor & Schwartz, July, p. 109

Woolen card, Davis & Furber, July, p. 112

Auto-coner, Universal Winding Co., July, p. 116

Winder pin-board attachment, Abbott Machine Co., July, p. 117

Vario-coner, Whitin Machine Works, July, p. 119

Drawing frame with 14-in. coiler, Whitin Machine Works, July, p. 108

Cotton Cleaner (without beaters), Aldrich Machine Works, Nov., p. 149

Warp preparation, Winding, and Weaving equipment

Unifil winder (still in development), Universal Winding Co., June, p. 137

Clock-spring top motion, and constant-tension let-off, Draper Corp., July, p. 123

V-belt loom drive, electronic let-off with pushbutton control, and chain-driven let-off, Crompton & Knowles Loom Works, July, pp. 129 and 125

Bleaching, Dyeing, and Finishing equipment

Tenter clip, Winsor & Jerauld Mfg. Co., Jan., p. 123

Finishing range for small lots, Weisner-Rapp Co., Inc., Mar., p. 146, and Greenville Steel & Foundry Co., Sept., p. 135

Finishing range for narrow fabrics, H. W. Butterworth & Sons Co., Jan., p. 126

Nylon-setting heat panels, Sill Industries, Inc., Feb., p. 174
Hot-air nylon-setting machine, Proctor & Schwartz, Jan., p. 128
Selvage-marking machine, Milfa-Graph Co., Feb., p. 168
Flexreel tensionless washer, James Hunter Machine Co., May, p. 111, and July, p. 137
Hosiery dryer, Smith, Drum & Co., Nov., p. 175

Power, Maintenance, and General Manufacturing supplies

Loom steam cleaner, Livingstone Engineering Co., Apr., p. 150
Printing counters, Durant Mfg. Co., May, p. 114
Multi-hide check strap, Gates Rubber Co., Sept., p. 150
Powered spindle oiler, Brown Dynalube Co., Sept., p. 170
Powered lap scale, Toledo Scale Co., Dec., p. 166
Draper-Diehl loom motor, Diehl Mfg. Co., July, p. 150

Knitting equipment

Argyle-sock machine, Hemphill Machine Co., Feb., p. 164
Kidde Aveco tricot machine, Kidde Mfg. Co., Nov., p. 184
Automatic needle oiler, Mellor, Bromley & Co., Dec., p. 216

5. RESEARCH

TEXTILE RESEARCH
Keeps Rolling Ahead

- Acrylic fibers gunning for some of wool's market
- "Super-cotton" hits the mill-trial stage
- Finishers improve materials and techniques

By P. M. THOMAS, *Editor, TEXTILE WORLD*

THERE WAS ABUNDANT EVIDENCE in 1950 that textile research is tearing ahead at a dizzy pace. The second textile revolution—this time chemical—marched headlong through the whole twelve months. Fibers, fabrics, processes, and machines were given a going-over that makes 1949 seem already in the dim past.

Most spectacular were, as usual, the synthetic fibers. The string of new fibers announced, or older fibers improved or made commercially available, is so long that they must be catalogued.

Probably the most significant activity among synthetic-fiber researchers was their effort to further the standing of the acrylic fibers. Du Pont's Orlon led the field, but still-unnamed acrylic-type fibers are being developed or improved by other companies.

It is almost certain that the acrylics will deal a mighty blow to wool.

Another highly significant trend in the field of synthetic-fiber research was the stampede by chemical companies to "get in the act." Fiber production offers a tremendous market for chemicals. So the chemical producers (Monsanto, Allied Chemical & Dye, Carbide & Carbon, and others) are either going in at the front door by developing their own fibers (such as Carbide & Carbon's dynel) or at the back door by supplying chemicals for someone else to produce the fiber (Hercules Powder and American Cynamid, for example). Companies even less directly involved (General Electric and Standard Oil) have not resisted the promising textile plum.

[For a complete picture of the current synthetic-fiber activity, see TW, Sept. '50, p. 92.]

SUPER-COTTONS. In the field of natural fibers, the most promising accomplishment was the development of "super-cottons" to the mill-trial stage. In 1950, one super-cotton was tested in mill runs by 25 different mills.

The main point of difference between ordinary cottons and the super-cotton tested is the latter's unusual fiber strength. Breeders increased fiber strength by about one-half, but at what expense to other fiber characteristics was not fully known at the close of 1950.

At the moment, the future of the super-cottons is unpredictable. Because the cotton fiber is an accumulation of balanced properties, one property can be increased in value only at the expense of one or more of the other properties. The indication now is that cottons will be specialized: one cotton of unusual strength will be grown for certain products, another of unusual fineness will be grown for certain other products, etc. In the end, we probably will have cottons as unlike each other as rayon, nylon, and possibly the acrylic fibers.

A mechanical development that may be a boon to practically all fibers and all mills is the fiber-crimping process called "Textralizing" [TW, Dec. '50, p. 106]. Water, heated under pressure to about 255° F., depending on the fiber, heat-sets crimp in the fiber. The crimp is sharp and angular —not wavy, like natural crimp. Possible advantages include greater wear and abrasion resistance, stability under twist, increased bulkiness, and increased air pockets in yarn and fabric.

Intriguing as basic-fiber research was in 1950, it by no means overshadowed fiber-utilization research. A few of the interesting developments were:

1. A test for detecting the aphid excreta usually called "honeydew" on raw cotton;
2. A test instrument to measure surface friction on individual wool fibers to permit a better study of felting; and
3. "Zipknit" yarns made on a tricot machine by splitting a fabric down to individual wales.

WET PROCESSING. As usual, wet processing received a lion's share of research effort.

Dow Corning Corp. described a water-repellent treatment in which a silicone is applied to a nylon or rayon fabric. The finish is said to be exceptionally durable to laundering and dry cleaning. Development work is under way to adapt water-repellent silicones to Orlon and cotton.

A waterproof fabric "that breathes" was made by Goodyear Tire & Rubber Co. in conjunction with the U. S. Quartermaster Corps. A water-repellent fabric was treated with three coats of a mixture composed of a solid pigment in a rubber-cement binder. Water would not penetrate the finished fabric, but water vapor would pass through.

Permanent dyes and finishes, including a pure white instead of the off-white formerly obtained, were applied to glass-yarn fabrics by Waterway Projects, Inc. Among the interesting finishes successfully applied are silk-screen printing and sprayed-metal coatings.

Coprantine colors and how to apply

them were announced by Ciba Co. The new dyes are said to fit between vat colors and the direct and developed dyes. They are easy to apply and are less expensive than the vats.

A carry-over project from previous years reached a satisfactory state in 1950. Melted metal as the medium for fixing the color in vat dyeing was developed three or four years ago, but only last year was processing by this method perfected. An alloy containing bismuth, cadmium, tin, and lead is heated to 95 to 105° C., and the cloth from the dye liquor is passed through the molten metal.

An improvement in wool finishing was announced by American Cyanamid Co. Melamine resins are applied to wool by a new method that eliminates the former high-temperature treatment and also levels out shrinkage resulting from different wools. The resin is applied as an acidic water solution of a polymerized melamine resin.

One of the most interesting of the new treatments uncovered during the year was the "Nylonizing" of nylon developed by Hans Bick, Inc., Reading, Pa. Type-8 nylon is bought in powder form from Du Pont. It is emulsified and applied to nylon fabric, woven or knitted, after dyeing. It is set by the bath temperature and, in the case of stockings, in final boarding.

A Nylonized fabric absorbs moisture faster and disperses it instantly. Better wearing qualities of the fabric are obtained. Over-all drying time is not increased too much.

6. COTTON AND SYNTHETICS DYEING

Techniques Being Perfected on DYEING SYNTHETICS

- Fastness of some shades still unsatisfactory
- High temperatures improve dye fixation
- Plants working on bulk storage and waste recovery of chemicals

By C. NORRIS RABOLD, *Consulting Editor, TEXTILE WORLD*

THE PAST YEAR has witnessed many new chemical developments, particularly in dyeing methods for the newer synthetic fibers. The dyeing of nylon has been going on for some years, but satisfactory fastness with some shades is still to be desired. The newer fibers, such as Orlon, Fiber V, and dynel, have generally presented serious dyeing problems. Consequently, a vast amount of research has been going on in the laboratory and under plant conditions to find better ways of dyeing these fibers.

It has been found that high temperatures, the use of organic swelling agents, and the establishment of "fiber-to-dye" bridges show the best possibilities for improving dye fixation. High pressures, combined with temperatures above 212° F., have brought about better fastness and depth of shade on fibers such as nylon and Orlon.

Generally, the work has been done with all classes of colors. It has been found that nylon is best dyed with acetate, acid, and chrome colors. The last two classes of dyes require special solvents and fixatives, and are best applied by the pad-steam method.

Orlon, at the present moment, seems to be best dyed under conditions of high temperatures and pressure with certain vat and acetate colors. Fiber V proves to be rather stubborn in its receptivity, and the best approach to this problem is apparently by using organic swelling agents, dyeing with acetate colors at high temperatures, and using pressure if possible. A recent investigation indicates that dynel can be dyed in heavier depths of shade, with greater dye exhaustion, when cuprous copper is applied in a pre-treatment operation. Direct and acid dyes apparently show greater depth and better dye yield by this method than by any other so far developed.

Considerable interest has been displayed in those colors whose wash fastness is improved by after-treating with copper salts. Primarily designed for dyeing rayons, where light- and wash-fastness are important, these colors have been extended in use to many specialized cotton fabrics. Better fastness is usually obtained, particularly to light, than with the diazotized and developed types.

Starch has long been the subject of chemical modification by research chemists. Recently, special starch modifications have been made which possess good flow and body, do not jell on standing, and are resistant to high concentrations of acids and alkalis. These starches are of considerable interest to printers. A better mark, improved color yield, less "marking off," and more satisfactory rinsability result than with print pastes made with regular thick-boiling starches and British gums.

Such starch modifications which prevent jelling and produce paste smoothness and body are particularly interesting to finishers who do back-filling. These same properties are valuable in the warp sizing of cotton, as greater uniformity and smoothness of the size film are obtained. These modifications are made both in the starch itself and by the addition of new chemical agents to ordinary starches.

Resin treatment of cotton fabrics for crush resistance and stabilization is on the increase. Various melamine and urea-resin modifications have been brought out during the past year. New catalysts for use with specific resin formulations have been developed. Improved buffer action in curing, and a greater leeway in curing temperatures is made possible by these catalysts. Tensile-strength loss, always an important consideration in such treatments, still is a problem, but these new resins and the employment of the proper catalyst help to minimize strength reduction.

In plant operation, more attention is being given to the bulk storage and handling of chemicals such as acetic acid, formic acid, hydrogen peroxide, sulphuric acid, and others. Not only is bulk handling more economical and efficient than individual containers, but it also gives improved processing results. Bulk handling encourages the metering of chemicals at points of use, so that there is more exactness in the making up of operating formulas in the dyehouse.

Along this same line is the same attention plants are giving to chemical recovery. Process wastes, such as mercerizing liquors that at one time ran into the sewer, are now being evaporated and filtered. Chemical constituents are separated and then reemployed in process once again.

7. WOOL-YARN PROCESSING

Trend Is to Blends Among **WOOL PROCESSORS**

- ▶ High production forecast for woolen mills
- ▶ Synthetic fibers and Milium finish spread available wool supply
- ▶ Wider cards lower unit production costs for progressive mills

By GUSTAV ZELLNIK, *Consulting Editor, TEXTILE WORLD*

BECAUSE OF GREATER CONSUMPTION of wool fabrics resulting from the increased demand of our armed forces, 1951 will probably bring higher production to woolen mills. It is true that consumption by civilians will suffer to a certain extent from astronomically high wool prices. Many consumers will not be able to afford the price of all-wool fabrics.

To counteract the price squeeze, more and more woolen mills will gradually get into the manufacture of blended wool-and-synthetics fabrics. Last spring and summer, a large amount of all-synthetic-fiber garments were accepted by the buying public. Nevertheless, the demand for 100%-woolen goods, especially in overcoats and women's wear, will continue.

During 1950, sucessful experiments were made with Milium-treated linings in topcoats. Great warmth was obtained, almost to the same extent as with an overcoat having a regular lining. The future result may well be that topcoats lined with Milium finish will eliminate the need for heavy overcoats. The smaller amount of wool woven into a topcoat will give the same protection as the larger amount of wool used in an overcoat.

As for blends already manufactured successfully with synthetics, there are those made from wool with rayon staple, wool with nylon staple, and wool-rayon and nylon blends. We also have some fabrics using 40% Vicara, as in some flannels. Also being developed for blend purposes are Du Pont's Fiber V, and dynel from Union Carbide & Carbon Corp. Orlon fiber developed by Du Pont is very promising as a wool substitute.

OTHER BLENDS. There is also a trend to a greater use of garnetted stock blended with virgin wool. Of course, the label law is an obstacle in this development, and the buying public still has some prejudice against garnetted material. Lap waste and noils have gone up in price along with wool, and therefore the use of even these materials has become somewhat prohibitive.

All these considerations portend the use of more synthetic fibers in woolen mills. And research will eventually enable us to get fabrics with physical properties similar to those of all-wool fabrics.

On the other hand, the natural wool fiber will not be entirely replaced by man-made fibers in the near future. Wool still has its place in the garment and knitting trade. Increased wool production throughout the world will gradually be able to match the increased demand for the natural fiber.

Another aspect of the 1951 wool-manufacturing picture will be the increased demand for animal specialty fibers. Larger quantities of mohair are now being used by manufacturers in combination with regular wool, and even wool-mohair-nylon or rayon blends are becoming standard combinations in many fabrics. Cashmere is in high demand, especially since some manufacturers are able to make fabrics out of this precious fiber at popular price levels. Nobody knows, of course, whether a sufficient supply of cashmere will be on hand this year even partly to cover the demand.

The outlook for wool-processing machinery is rather favorable. Most wool manufacturers know that the so-called 60x60-in. standard wool card will eventually give way to wider cards. Most orders today are for 72-in. cards, and one of the leading wool manufacturers has even ordered 80-in. cards. A mill has to lick rising labor costs somehow. Wider cards increase production without increasing the number of people employed around the cards. In short, wool manufacturers are now seeking to replace old and antiquated equipment with modern machinery.

There is also a definite trend toward moving woolen mills gradually to locations where state taxes and labor conditions are more favorable, and where new buildings enable a manufacturer to streamline his production and make it possible for him to counteract high wool prices and rising over-all costs.

8. WORSTED-YARN PROCESSING

Revolutionary Shortcuts Stir **WORSTED MILLS**

- ▶ Pin drafting, long-draft frames, and pot spinning are big news
- ▶ Flexibility of operation promises blending in a Universal system
- ▶ Ambler-system principles best for excellent fiber control

By FRANCOIS CLEYN, *Consulting Editor, Textile World*

WORSTED-YARN MANUFACTURERS have in 1950 seen more changes than at any other time in history.

Pin drafters are replacing drawing machines in the Bradford, French, and American systems. A number of long-draft systems have been set up in the roving and spinning operations. The most sensational of these is the Ambler Superdraft. This system is now in operation in Canada at the mills of Downs Coulter Ltd., Trenton, Ontario, and is available in the U. S. through McGlynn Hays Industries. Pot spinning developed by McCann in the United States and Prince-Smith in England is a complete departure from past practices.

The most interesting part about these developments is the fact that they don't compete with, but supplement, each other. Another feature is that none of these developments is confined to wool. They can all be used for various fibers and blends.

Pin drafters, long-draft spinning, and pot spinning will certainly dominate the new worsted-machinery markets of 1951. They are flexible machines, and as a result the different processing systems will become progressively more and more intermingled. Maybe we shall soon develop a Universal system of converting fibers. One such development is the Collins & Aikman Bird system [TW, June, '50, p. 89].

New developments make their appearance faster than ever, and it will be impossible for the mills to wait for the latest refinement. Purchases of new equipment will be made while they can because mill men realize that delay may stop the development and progress of their organization.

New equipment will enable mills still to use a large portion of their present machinery. At the same time, changes will be so drastic that it is quite possible that plants with basic worsted machinery will one day be able to produce yarn as cheaply as cotton spinners. This situation can very easily come about; and if it does, it will certainly be a revolution in the history of spinning.

Not very much has happened in 1950 in the combing field, but we may shortly expect some interesting developments in this section of the industry. Pin drafters or gill reducers will no doubt be produced on new and different principles. Now that the Ambler system has proved that twist is helpful in achieving long draft and is the best method of fiber control, others will certainly build long-draft mechanisms on these principles. In 1951, worsted-mill management would normally have an opportunity to make a wide selection from this new machinery. By putting the right machines in the proper place, considerable savings can result and lower yarn-production costs can be realized.

9. WOOL WET PROCESSING

Considerable Research Sparks Wool WET PROCESSING

- Wool-scouring costs tied in with waste-disposal demands
- Raw-stock dyeing with fast cotton vat dyes being developed
- Blends with synthetics present dyeing and finishing problems

By N. D. MARIUS

In an important trend during the past year, considerable research has been carried on to scour wool efficiently and economically and at the same time to lessen the expense of waste disposal. The severe pollution of rivers and lakes with wool scouring waste is attracting the attention of both textile mills and federal and state governments. The Western Regional Research Laboratory of the U. S. Department of Agriculture has inaugurated a research into wool-scouring processes, and much promise is expected from their butyl-alcohol process, on which a progress report has already been made.

The development of pure-solvent processes for continuous degreasing has been retarded for several reasons. Such a process does not completely solve the waste-disposal problem, as a water wash is necessary with any pure-solvent cleaning to remove water-soluble suint salts and also adhered dirt. In addition, the economy in the use of any solvent depends on the value of the wool grease by-product. With the use of the relatively expensive non-flammable chlorinated solvents, the purity and value of the wool grease is a critical factor, particularly since some kind of waste-disposal system (for example, a trickling filter) will be necessary with this process to eliminate stream pollution. However, with continued research, there is a strong probability that solvent processes will be very successful for wool degreasing and for eliminating wool-scouring wastes.

The use of synthetic detergents in conventional aqueous methods of wool scouring has proved to be of value, and progressive manufacturers are adopting these new products to use with or without conventional soaps.

WET FINISHING. Improvements have been made in the new continuous rope-scouring machines for worsted and woolen fabrics. More squeeze and greater rinsing capacity have been added. These machines are ideal with the use of synthetics, and the results are most satisfactory when this type of detergent is used. However, the selection of the proper detergent is a critical factor, as one must be chosen which has high dispersal value for soil removal with no re-disposition character. It should be noted that there is something yet to be desired in obtaining a synthetic detergent that works fast enough to be entirely successful in high-speed continuous scouring.

DYEING. Much research is continuing in the continuous dyeing of all-wool worsted piece goods. This is a very difficult problem as a worsted fabric of high density is difficult to wet out evenly at the speeds necessary for successful continuous dyeing. Bachmann Uxbridge Worsted Co. has published some results obtained with its high-temperature process. They appear to have been at least partially successful in dyeing certain types of weaves.

Milton Harris has developed and patented an improved process for stripping dyed wool without fiber damage by using ethylene dibromide along with conventional wool-stripping chemicals.

Definite progress has been made in the continuous dyeing of wool raw stock with fast cotton vat dyes which are faster on wool than any known chrome dyes. This process and machine has been developed by Williams of continuous cotton piece-dyeing fame, and will be on the market soon.

SPECIAL FINISHES. Washable Wool Fabrics—Much of this product marketed in 1950 was processed with the various chlorination processes such as Harriset, Sanforlan, Schollerized, Kroy, etc. Some fabric was finished with resin application, such as the Lanaset and Resloom processes.

Water-Repellent Fabrics—The amount of this material increased considerably during 1950. The industry has not yet been able to produce a completely durable repellent fabric because of the lack of a suitable chemical treatment which will produce a

permanent repellent fabric without ruining the wool finish. This is a research problem and is arousing considerable interest.

Moth-Repellent Fabrics—This type of finish would be a great boon to the consumer, but he will not get it in a big way "until he demands it," as wool people say, much more than he has up to this time. Unless this demand originates from the consumer level, manufacturers will not add this finish to their cost. Nevertheless, for added buying incentive some progressive manufacturers have supplied this material to the trade, more so during the past year than heretofore. The demand will increase during 1951.

10. ENGINEERING

Northern Engineers Seek Better OPERATION CONTROL

- Process elimination allows for streamlining of mills
- Generation and transmission of power methods improved
- Safety and fire-prevention records constantly improving

By E. H. HELLIWELL, *New England Editor, TEXTILE WORLD*

ELIMINATION OF PROCESSES, in many Northern mills, has released much floor space and made the greater streamlining of processes possible. Individual motor drives have reduced the engineer's problem in the placing of pulleys and line shafting. Electrical power generation, distribution, and control have assumed increased importance.

Steam plants for power and process-steam purposes use either coal or oil. The price of the fuel and economy of handling generally decide which type is used. Coal-handling systems and automatic stokers have greatly reduced labor costs in coal-burning plants. A greater use of natural gas, said to offer many economies, is predicted for the future in Northern plants.

Water softeners for both boiler-feed and process water has helped to solve many water-supply problems. Control of hardness has resulted in steam-generation economies, reduction in scale formation, more uniform processing, and savings in soap and detergents.

Continuous-process range installations in bleaching, dyeing, and finishing have reduced floor-space requirements and the amount of labor required for processing and handling. Direct motor drives and electronic devices provide automatic controls for speed, temperature, viscosity, tension guiding, and other details of operation.

FLUID DRIVES. The increased use of fluid drives or couplings on mules, ring frames, cards, and other high-inertia machines has simplified the application of direct-motor drives to this type of equipment. Simple push-button controls permit uniform starting with the fluid coupling automatically controlling the torque necessary to bring a machine to required speed with no danger of stalling the motor.

Problems of vibration and weave-room sway have been partially solved by two different methods. Vibration-dampening pads placed between the supporting legs of the loom and the floor have proved effective in reducing this vibration. Electrical methods have also been used on direct motor-driven looms. Cadence control of the loom lay is utilized to reduce loom sway and vibration.

SAFETY. Northern engineers, while striving for improved and economical plant operation, have not overlooked the importance of accident and fire prevention. Safeguards have been devised and installed to prevent possible injury to workers. The best proofs of the effectiveness of these devices and other precautions are the excellent safety records of many plants.

Reduction of fire hazards has been accomplished by better enclosures for electrical switches and equipment, increased use of magnetic traps for tramp-iron removal, and the reduction in the number of hot bearings caused by a lack of lubrication. Fire losses have been kept to a minimum by proper placement of sprinklers, by placing suitable portable fire extinguishers in handy locations, by studying correct methods and instructions for fighting fires, and by the resultant prevention of needless damage to stock and equipment by fire or water.

FUNCTIONAL ENGINEERING Continues in South

- Plants being built for specific jobs
- Single-story, steel-frame construction favored
- Substitution of building materials may now be necessary

By W. A. THOMASON, JR., *Southern Editor, TEXTILE WORLD*

ARCHITECTS, ENGINEERS, and equipment manufacturers in the South are continuing the trend of tailoring the job to the situation.

Following the decentralization policy set up by many firms, most new plants have been built for specialized operations. The construction, layout, wiring, and lighting of these plants has been designed for the specific job to be done.

Single-story, steel-frame construction is favored. Walls and roof of most new plants are insulated to permit installation of air-conditioning equipment. Because of their lower cost, concrete floors are coming into greater use, although most engineers still favor wood over concrete The trend is definitely toward simple finishes in the plants. Elaborate finishes, such as ceramic walls, etc., are "out" because of high prices and scarcity of materials. For these reasons, substi-

tute materials and construction may be necessary in many cases. For example, it may be that in 1951 most new plants will be constructed of reinforced concrete instead of steel frame.

EASY FLOW SOUGHT. New plants are laid out to provide smooth, easy flow of materials where possible, and require a minimum of materials-handling equipment. Where the flow is difficult, or where needed in existing plants, new automatic or semi-automatic handling systems are being installed; or fork trucks with specially designed handling devices are being used. Mills of multi-floor construction are installing floor-to-floor conveyors for trucks as well as for individual packages [See TW, Sept., '50, p. 110].

Practically all new plants are air-conditioned, and the humidification equipment permits close control of atmospheric conditions. The type of system used will depend entirely on local conditions. Installations are now designed for the particular plants they are being installed in. Some installations even maintain different conditions in different parts of the same room.

Lighting is still being improved. Fluorescent fixtures are practically standard now. New lamps, such as the sun lamp [TW, Nov., '50, p 169] and a special cotton-classing light [TW, Nov., '50, p. 147], are examples of specialized lighting recently developed.

The trend in power transmission to individual drives continues. Variable-speed drives are more in evidence; and units which provide slow, smooth starting are coming into the picture. Adjustable-diameter V-belt sheaves are fairly well established, as is the pivoted motor base with flat-belt drive. Newcomers to this field are magnetic clutches, slip clutches, hydraulic couplings, and centrifugal clutches. Newly designed control panels give variable speeds by controlling the motor speed.

11. WASHINGTON DEVELOPMENTS

MOBILIZATION PROGRAM

Takes Over for 1951

- Controls will assume more and more importance
- Long-range textile decisions still not made
- Shortage seen more in capacity than in materials or men

By DON LOOMIS, *McGraw-Hill Washington Bureau*

THE TEXTILE OUTLOOK for 1951 can be summarized in these three words: controls, shortages, prosperity.

Textiles, of course, will have a somewhat special position in the national economy during this mobilization period, as they did throughout World War II.

The problems facing the military procurement officers are much the same as during the last war. Specifications have changed and will continue to show changes. When the top brass—civilian as well as military—have finished making the decisions as to what sort of war we are preparing for, then the procurement of textiles will really get under way.

More and more, the trend is toward a kind of "controlled-materials plan" like the one that was used by the War Production Board during World War II. It seems unlikely, however, that such a complete program of materials controls can be put into effect before summer, or late spring at the earliest.

Such a tight program of controls means (1) the military gets just about all the textiles it wants, and (2) the government has the really tough job of allocating and rationing the remaining supply to the civilian side of the economy. Controls officials in the National Production Authority have been preparing for this eventuality. They figure they will have to schedule—that is, *direct*—the production of the types and quantity of fabrics needed for the military and the essential civilian economy.

As during World War II, it appears likely that the main shortage in textiles will be shortage of capacity, not shortage of materials or manpower. However, the industry's installation of new high-speed automatic equipment will help just that much in meeting both military and peak civilian demand.

LAST YEAR. It appeared in 1950 that the government for some time would be able to fill its needs without, in effect, forcing mills to take government orders. Industry men contended that there would continue to be enough capacity available in the textile industry to fill government orders through the regular bid procedure without the government taking drastic action.

At the outset, many mills weren't anxious to load up with government business. They want to keep their civilian customers. For this reason, the National Production Authority issued orders that provide for the equitable distribution of military orders among producing mills. The initial order, for producers of high-tenacity rayon yarn, said that no mill need accept a rated (priority military) order that would raise his deliveries for any month to more than 10% of his production.

Mills in the South, especially weren't anxious to bid for government business for another reason: that is, the higher minimum wage that must be paid for government work. The Walsh-Healey Act minimum for textiles is 87¢.

1951 FIBER SUPPLY. Shortages of synthetic fibers, of course, aren't likely to be alleviated in the foreseeable future. Military orders will take their bite, and civilians will get just that much less.

Cotton supplies will continue to be critical until this year's crop begins coming in. Department of Agriculture officials took a beating for their cutbacks that help create the present shortage. So on this year's crop, they ended all controls on acreage, and continued the 90%-of-parity price guarantee to help stimulate cotton production.

Wool supplies will continue short for the foreseeable future, as the Quartermaster Corps buys more uniforms, blankets, and other fabrics to outfit a much larger armed force. Defense officials who got a congressional drubbing for being caught without adequate wool supplies are not likely to err on this side again. The 100,000,000 lb. of wool they were authorized to buy helped to bail them

out of an embarrassing situation—but they'll take vigorous steps to see that they aren't put in such a bad light again.

In the event of all-out war, officials feel that our wool supplies will be plentiful, as they were during World War II. But if the problem is continuing a "tough" mobilization build-up, for ourselves and our allies, then the problem is more complicated. Officials will feel the necessity of making some concessions to the civilian and other normal users of wool, not only here but also abroad.

12. PERSONNEL

Men, Training, Communications--
PERSONNEL ISSUES OF 1951

- **Individual employee still all-important**
- **Emphasis shifts to vindicating the American system**
- **Management-labor communications system is weakest link**

By MACON MILLER, ***Director, Industrial and Public Relations, Fieldcrest Mills***

AT THE BEGINNING OF 1950 we predicted in this section that more thought and consideration would be given to the individual in industry. This has proved to be true, and in 1951 we feel that the individual will play an even more important part in our problem-solving conferences.

At the Southern Industrial Relations Conference, held at Blue Ridge, N. C., last summer, Ray S. Livingston, vice president of Thompson Products Co., Cleveland, Ohio, said: "The American system has stood against all other ideologies because it has given more opportunity to the individual than any other, because it is perfectible, and because at its very best it reflects the truly Christian principle of the essential dignity of man."

At the conclusion of this same conference an evaluation appraisal was made through a questionnaire. The answers to one question, "Suggest subjects you would like to hear next year," point to the trend in industrial thinking for 1951. Three major areas command immediate attention:

Manpower—Many industrial relations men have the feeling that it won't be long before we will have to dust off the Manning tables of the early '40's. An acute shortage of manpower is almost inevitable, and those of us who face the problem early will avoid much confusion. It will take time and planning to get experienced women back into industry. In many cases, retirement rules and regulations prohibit the use of older or retired employees. It may be necessary to modify such rules and regulations. The employment of physically handicapped people requires painstaking study and direction.

Training—With the manpower shortage and the accompanying turnover, due not only to the military requirements but also to the general restlessness of labor that is always evident in a critical period, the need for training will be paramount. Present methods will have to be speeded up and streamlined, and techniques will have to be perfected. The TWI programs of the war period are being revived rapidly, and the coverage will have to be broadened tremendously during the current year.

Communications—The flow of information both up and down must be speeded up in a tension-and-strain period. Confidence in industrial leadership is assured only when the objectives of that leadership are explained satisfactorily and understood by the majority. More and better methods of communications will be developed in the near future. An effective system of communications between management and labor is probably the weakest phase of industrial management.

Each person in textile-mill personnel work should start now. Study your manpower problems. Develop your training techniques. And perfect your communications system.

13. OVERSEAS PICTURE

RAYON FIBER SHORTAGES
Force Nations to Build Own Facilities

- **Lack of reserves of cotton and wool force prices sky-high**
- **Currency difficulties make textile self-sufficiency necessary**
- **Situation not helped by international tensions**

A RETURN TO self-sufficiency in textiles is the trend of the times at this 1951 beginning of the end of the Marshal-Plan era.

Many countries are now actively engaged—in spite of past debts, heavy taxation, shortage of capital, and new armament commitments—in preparing for their own basic textile needs in the event of cessation of ordinary trade during an emergency.

This year is seen as an especially perilous one for all, because essential fibers are in very short supply in relation to the unprecedented demand that has resulted from a combined free-world rise in living standards and free-world fear for the immediate future.

The past season's short crop of only 9,700,000 bales in the United States is one of the reasons for the cotton shortage. From 4,000,000 to 4,500,000 bales will be available for other countries. In 1949, 15,900,000 bales were produced, of which 5,800,000 bales went overseas. Next fall the United States envisages a 16,000,000-bale crop, but may not get all of it as

(*Continued on page 226*)

See Next Page for the 1950 "WORLD POSITION OF TEXTILES" Chart . . . . . ➟

WORLD POSITION OF TEXTILES IN 1950

THIS TABLE is based upon the most recent data available received from McGraw-Hill World News correspondents in the principal countries of the world. The data are for 1950 except in several instances indicated by footnote references. Metric units have been converted to English units, and effort has been made to indicate by footnote where other than the North American custom is followed. Unless otherwise noted, "yards" are linear yards.

	The Americas								Africa		Oceania	
	Argentina	Brazil	Canada	Dominican Republic	Mexico	Peru	United States	Uruguay	Egypt	South Africa	Australia	New Zealand
COTTON YARN												
Spindles (mil.)	0.71	3.5	1.1	0.003[7]	1.12	0.2[7]	23.1	0.08	0.5[7]	0.05[8]	0.20	n. a.
Production (mil. lb.)	154.14	390.0	205.0	n. a.	104.45	1.0[7]	4,791.9	n. a.	118.8[7]	12.60[8]	31.70	n. a.
Imports (mil. lb.)	6.56[7]	0.6	6.0	0.02[7]	—	1.1[7]	1.2	2.13	0.3[7]	n. a.	5.60	1.4[7]
Exports (mil. lb.)	d	2.5	—	—	0.13	0.1[7]	23.7	n. a.	10.4[7]	n. a.	0.01	n. a.
COTTON CLOTH												
Looms (thous.)	14.0	100.0	19.4	0.1[7]	38.0	5.5[7]	492.8	1.2	52.12[8][7]	1.8[m]	3.1	n. a.
Production (mil. yd.)	*154.1	1,300.0	298.0	0.5[7]	*134.0	78.8[7]	9,651.0	5.8	371.73[7]	n. a.	27.0[f]	n. a.
Imports (mil. yd.)	33.1[7]	*0.2	173.0	12.0[f]	*1.3	*2.1[7]	47.0[f]	*1.8	*2.10[f]	n. a.	188.4[f]	49.5[f7]
Exports (mil. yd.)	d	*16.0	3.3	—	*5.5	*0.1[7]	546.0[f]	n. a.	0.05[7]	n. a.	2.3[f]	n. a.
WOOL YARN												
Spindles (thous.)	450.0	90.0	144.0[g]	—	142.0	15.0[6]	3,186.0	51.8	42.0[7]	n. a.	442.0	69.0[7]
Production (mil. lb.)	64.7	16.7[k]	13.9[g]	—	9.5	3.5[6]	638.1	0.3	4.4[6]	n. a.	48.3	3.6[7]
Imports (mil. lb.)	0.7[k]	2.3	2.7[g]	—	d	d	2.0	n. a.	2.7[7]	n. a.	0.6	1.5[7]
Exports (mil. lb.)	d	—	—	—	d	d	0.3	0.5	—	n. a.	0.6	—
WOOL CLOTH												
Looms (thous.)	7.40	3.45[l]	2.9	—	4.0	0.5[8]	41.7	0.6	0.6[7]	n. a.	5.9	0.7[7]
Production (mil. yd.)	*71.05	14.80[k]	25.0	—	*11.0	3.0[8]	412.0	0.5	5.9[7]	n. a.	43.0[f]	2.3[7]
Imports (mil. yd.)	0.61[k]	*0.40	12.0	0.001[7]	*0.07	*0.5[7]	*9.1	*0.1	*4.8[7]	n. a.	10.1[f]	7.2[f7]
Exports (mil. yd.)	4.00[g]	—	—	—	d	d	*3.0	d	n. a.	n. a.	0.9[f]	n. a.
SYNTHETICS (Filament)												
Production (mil. lb.)	13.96	30.00	30.0	—	20.0	1.2[7]	941.5	—	5.2	n. a.	n. a.	n. a.
Imports (mil. lb.)	11.52[n9]	3.36[m]	5.3	—	d	0.2[7]	6.2	0.03	6.8[7]	n. a.	8.90[m]	0.4[7]
Exports (mil. lb.)	d	—	—	—	d	d	15.0	—	n. a.	n. a.	0.06[m]	n. a.
SYNTHETICS (Staple)												
Production (mil. lb.)	1.12	8.0	14.5	—	7.00	—	300.0	—	—	n. a.	n. a.	n. a.
Imports (mil. lb.)	e	e	5.2	—	d	—	92.0	n. a.	—	n. a.	e	0.1[7]
Exports (mil. lb.)	d	—	—	—	d	—	1.5	—	—	n. a.	e	n. a.
WOVEN SYNTHETICS												
Production (mil. yd.)	*24.62	*20.0	100.0	—	n. a.	5.1[7]	2,496.0	n. a.	30.0	n. a.	8.6[m]	n. a.
Imports (mil. yd.)	n. a.	d	8.5	—	n. a.	*0.3[7]	*0.4	0.04	*1.6[7]	n. a.	60.9[f]	14.2[f7]
Exports (mil. yd.)	d	—	2.0	—	n. a.	—	180.0[f]	n. a.	n. a.	n. a.	0.6[f]	n. a.

	Europe										Asia	
	Belgium	Finland	France	Great Britain	Hungary	Italy	Portugal	Spain	Sweden	Russia	India	Japan
COTTON YARN												
Spindles (mil.)	2.2	0.35	7.6	35.0	0.3[7]	5.6	0.75	2.34	0.6	8.0[r]	10.7	4.2
Production (mil. lb.)	*191.5	4.00	545.0	946.0	80.3[8]	430.0	66.40	121.35[7]	61.7	n. a.	1,309.2	525.0
Imports (mil. lb.)	9.7	1.32	27.5	14.2	n. a.	7.8	0.15	d	8.8	n. a.	14.1	—
Exports (mil. lb.)	36.5	n. a.	16.5	68.8	3.2[8]	67.0	0.70	0.43[7]	—	n. a.	77.1	27.0
COTTON CLOTH												
Looms (thous.)	35.0	8.0	156.4	380.0	15.0[e]	141.5	27.1	79.2	9.6	154.0[r]	202.5	253.0
Production (mil. yd.)	*143.5	*16.1	*374.0	2,000.0	160.0[f]	*254.0	*38.2	*131.4[7]	*57.7	4,900.0[r]	3,837.0	1,450.0[f]
Imports (mil. yd.)	*4.4	*6.6	*49.5	294.0	n. a.	*2.9	*0.5	*143.8[7]	*16.5	n. a.	73.3	—
Exports (mil. yd.)	*67.5	n. a.	*116.5	800.0	29.7[8]	*91.5	*14.7	*26.2[7]	—	n. a.	935.6	1,150.0[f]
WOOL YARN												
Spindles (thous.)	755.0	89.9	2,820.3	3,000.0[g]	100.0[7]	1,600.0	171.00	546.2	295.0	n. a.	90.00	751.8
Production (mil. lb.)	78.7	4.6	275.0	555.0[m]	23.1[6]	190.0	15.80	19.5[7]	38.6	n. a.	2.35	70.0
Imports (mil. lb.)	4.7	3.5	0.4	7.4	n. a.	0.3	0.02	d	7.9	n. a.	2.97[f]	—
Exports (mil. lb.)	25.2	d	40.6	35.0	n. a.	7.0	d	0.1[7]	—	n. a.	—	0.8
WOOL CLOTH												
Looms (thous.)	11.0	1.6	42.9	63.0	4.0	22.0	4.2	9.5	3.9	n. a.	2.8	16.7
Production (mil. yd.)	*51.6	*12.1	*176.0	398.0[g]	30.0[6]	*100.0	11.1	n. a.	*32.4	174.0[r]	*16.0	80.0[f]
Imports (mil. yd.)	*3.6	*2.2	*1.5	28.2[f]	n. a.	*0.5	*0.1	d	*7.0	n. a.	*8.4	—
Exports (mil. yd.)	*23.2	—	*19.8	123.3[f]	2.5[8]	*25.0	*0.2	*0.7[7]	*1.0	n. a.	*11.7	3.0[f]
SYNTHETICS (Filament)												
Production (mil. lb.)	18.8	2.6	101.2	195.0	0.2[8]	110.0	2.7	14.9[7]	4.0	10.0[s]	2.8	104.0
Imports (mil. lb.)	3.3	n. a.	2.2	6.6	n. a.	5.7[m]	1.0	0.1[m7]	6.4	n. a.	36.9	—
Exports (mil. lb.)	0.9	n. a.	22.0	22.8	n. a.	77.0[m]	d	—	—	n. a.	—	4.8
SYNTHETICS (Staple)												
Production (mil. lb.)	24.9	14.3	77.0	173.0[f]	4.2[8]	147.5	—	26.1[7]	25.4	5.0[8]	—	150.0
Imports (mil. lb.)	3.6	1.7	0.6	n. a.	n. a.	e	0.4	e	1.2	n. a.	3.2	—
Exports (mil. lb.)	2.1	7.7	19.8	2.4	n. a.	e	—	—	11.5	n. a.	—	5.5[f]
WOVEN SYNTHETICS												
Production (mil. yd.)	*11.90	*8.7[u]	*55.0	889.0[m]	20.0[6]	n. a.	n. a.	8.0[7]	*15.7	n. a.	20.00[s]	685.0[s]
Imports (mil. yd.)	*0.25	n. a.	*0.2	53.9[f]	n. a.	0.7	—	n. a.	*3.9	n. a.	14.25	—
Exports (mil. yd.)	*0.76	n. a.	*18.7	212.0[f]	2.4[6]	41.8	—	n. a.	—	n. a.	12.18	175.0[f]

[1] Figure for 1943. [2] Figure for 1944. [3] Figure for 1945. [4] Figure for 1946. [5] Figure for 1947. [6] Figure for 1948. [7] Figure for 1949. n. a. Not available. * Million lb. — None. * Million dollars. [d] Insignificant. [e] Includes imports. [g] Worsted. [h] Includes 50,000 handlooms. [i] 1936–39 average. [k] Includes wool. [l] Filament and staple. [m] Million yd. [n] Excluding blankets. [o] Objectives by 1950. [p] Million sq. meters. [q] Million sq. yd. [r] Includes silk looms. [s] Includes blends. [t] Mixed with cotton. [u] Includes knit goods. [v] Included with filament.

C. W. BENDIGO

PRENTICE M. THOMAS *Succeeds* C. W. BENDIGO *as Editor*

P. M. THOMAS

DEAR READERS:

I wish to announce the appointment of a new editor-in-chief for TEXTILE WORLD. Perhaps he needs no introduction to you, as he is Prentice M. Thomas, formerly associate editor. All faithful readers of this journal know him for the many valuable, interesting, and lucidly written articles and editorials that have appeared over his signature.

Mr. Thomas succeeds a very able man, C. W. Bendigo, who has resigned to join one of the world's foremost chemical companies, American Cyanamid Company. He will be connected with the New Product Development Department of that company, and his principal assignment will be to study current developments in the field of synthetic fibers. Mr. Bendigo's extensive knowledge of synthetic-fiber properties and applications well qualifies him for this assignment. American Cyanamid has made a wise choice.

For a number of years Mr. Thomas, as second man in rank on the staff, has contributed very materially to the planning and carrying out of the policies that have brought this publication to the highest readership and largest circulation in the history of textile publishing.

Prent, as the new editor-in-chief is known on the staff and in many other places in the textile industry, was born in Clanton, Ala., in 1912. He is a graduate of Southern Union Junior College, Wadley, Ala., and he majored in journalism at Lincoln Memorial University, Harrogate, Tenn. His college career was followed by a short period of newspaper reporting in Pineville, Ky., and Columbus, Ga.

At Columbus, Prent Thomas went to work for Columbus Mfg. Co., remaining seven and one-half years, six of them as second hand in the carding department. Later he moved to Swift Spinning Mills, also in Columbus, as night assistant superintendent, and finally joined the staff of the Bemis Bro. Bag Co. at Talladega, Ala. Here he soon became laboratory head, assistant research director, and ultimately overseer of spinning.

Previous to joining the TEXTILE WORLD staff, in 1945, Prent had been a contributor to the editorial columns of this publication under the nom-de-plume "A. C. Walters." He had also written for general publications under his own name. Obviously born to be a top-flight writer and editor, it is a fortunate circumstance for textile journalism that he spent a considerable period of his life acquiring practical experience in textile-mill work.

Right-hand man to Prent Thomas will be William A. Newell, who continues as managing editor with added responsibilities. Bill Newell joined TEXTILE WORLD in 1947; and much of the progress that this magazine has lately shown in the livelier, more interesting, and more attractive presentation of its editorial material is due to his initiative. He, also, is textile trained and experienced. He got his first baptism in journalism as editor of the *Textile Forum*, a student publication of the School of Textiles, North Carolina State College, Raleigh, N. C.

Ben Bendigo's many friends will be glad to know that he is recovering rapidly from the recent back injury that resulted from his being thrown from a horse in Florida. He has kindly given me permission to quote the following from a letter that he recently wrote me from Fort Myers:

> *"The seven years that I have spent with* TEXTILE WORLD *and the superb McGraw-Hill organization have been the happiest of my life... I feel that we have built up a wonderful staff... Under the leadership of Prent Thomas and Bill Newell, I am sure that the publication will rise to new high levels of service to our textile industry. The recent additions of Luke Thomason and Jean Haws have done much to strengthen our staff. They complement well the older, and ever more valuable, members – Dick Scott, Ernest Helliwell, Bob Fink, and Earle Mauldin – and our fine consulting-editor staff."*

The happiest years of your life, Ben? They have been great years for us, too. Your cheerful, well-balanced personality has been a comfort and inspiration to all of us. We look forward hopefully and confidently to your success in your new work.

Edwin S. Fowle

PUBLISHER

"GETTING THE FIXERS TOGETHER REGULARLY to discuss their fixing problems is one of the best ways I know to get a good job done," says Bill Jenkins, left, general overseer of weaving at the Greensboro Weaving Plant, Burlington Mills Corp. The fixers of each shift meet once a week with their shift overseer and second hands.

Teamwork Gives QUALITY WEAVING At Burlington Mills Plant

Everybody at the Greensboro Weaving Plant of Burlington Mills Corp. has a hand in keeping the quality of weaving up. Here's how they do it—

- *The swatch checker dyes and inspects a swatch from each new warp.*
- *The second hand inspects the first cut from each new warp.*
- *The second hand shows each cut which is not first quality to the weaver and fixer on that loom.*
- *The loom fixers meet once a week with the overseers to discuss their fixing problems and particular defects.*

By W. A. THOMASON, JR., *Southern Editor, TEXTILE WORLD*

GETTING HIGH PRODUCTION of good-quality fabrics at low cost is the goal of most weaving mills. The Greensboro Weaving Plant not only shoots at that goal, but has achieved great success in spite of being a highly-styled, fancy-weaving plant.

Greensboro Weaving Plant has been expanded recently and now has 448 looms and employs 300 people. Various nylon and rayon fabrics are being woven here.

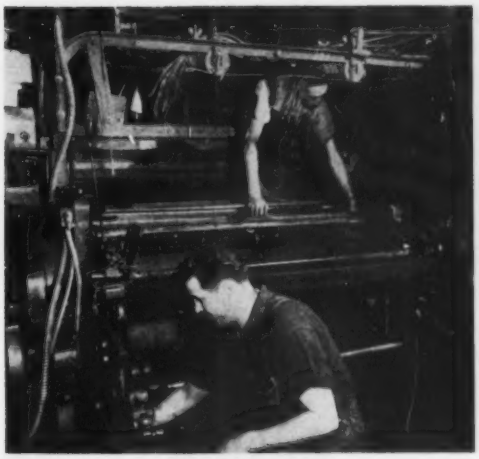
The nature of these fabrics requires high-quality weaving. The fixers know that they must keep the looms in top condition, and the weavers know that they must keep on the job continually to prevent any bad work. The supervisors work very closely with the weavers and fixers to help them do a top-notch job.

The major reason, however, for the good work being done at Greensboro Weaving is the excellent teamwork and cooperation on all levels. If a fixer finds out how to reduce or eliminate the cause of a particular defect, he doesn't just keep it to himself. He brings it up at the fixer's meeting.

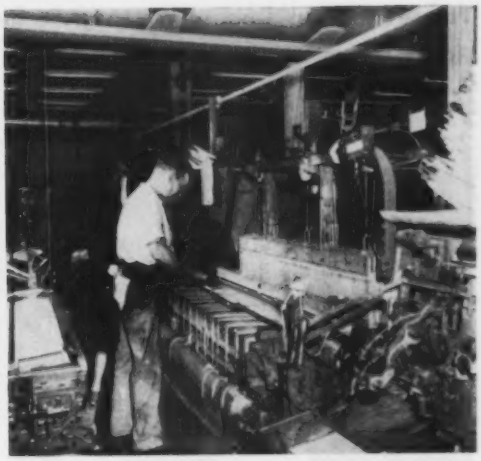
If certain troubles have been encountered in a trial run of a new fabric, the word goes out on it; and everyone pitches in until the fabric is running smoothly.

It is this fine spirit that led a foreign textile-school dean to say, after a visit to this plant, that he had never been in a plant where he felt as much friendly spirit in the air.

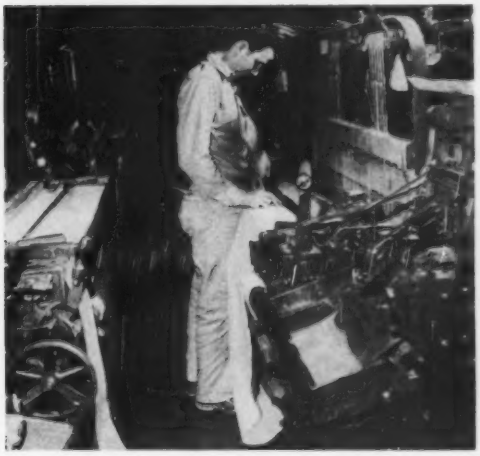
Here is how this fine cooperation leads Greensboro Weaving to keep the quality of work at the highest level.



PREVENTIVE MAINTENANCE is done when the warp is out. While the loom cleaner, Fred Williams, cleans the loom, the section fixer, Hayden Clark, checks all parts and mechanisms and lubricates those bearings and parts scheduled.



WHEN THE FIXER STARTS A NEW WARP, he checks the general operation of the loom. Fixer Ernest Cooley knows that if everything is ship-shape when he starts this warp, the loom will make good fabric; and it isn't likely to cause him any trouble.



THE CLOTH DOFFER CUTS A SWATCH from the new warp as soon as a few yards have been woven. This cloth doffer, Jerriel Gaydon, is shown marking the end of a swatch to identify it for the swatch checker.

VIVIAN SUTPIN DYES AND CHECKS a swatch from each new warp. If the warp is irregular in any respect; or if there are any wrong draws, she will catch them before many yards of the warp have been woven.

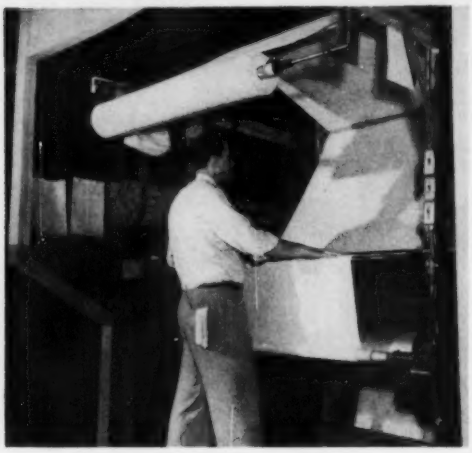
Preventive Maintenance Keeps Looms in Good Condition

As soon as a warp is taken out, the loom cleaner starts cleaning the loom. He scours the floor under the loom as well as all parts. While he is doing this work, the section fixer checks the condition of all parts and mechanisms. If any parts show excessive wear, he or the breakdown man replaces them. If any parts need adjustment, he does that job.

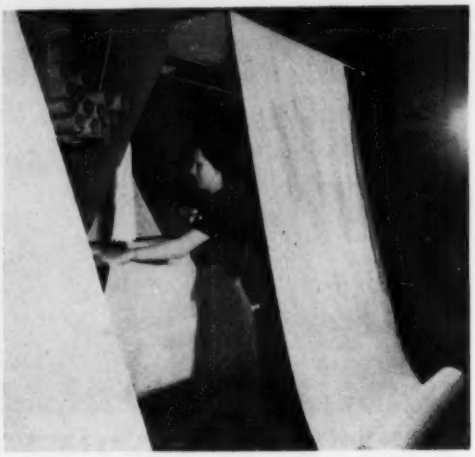
The fixer lubricates certain parts of the loom at this time on a regular schedule. As the oiler cannot get to some lubrication points when the loom is in operation, these points are among the ones that the fixer takes care of.

After the loom is cleaned and lubricated, and the mechanical condition has been approved, the fixer puts in the new warp and starts it up.

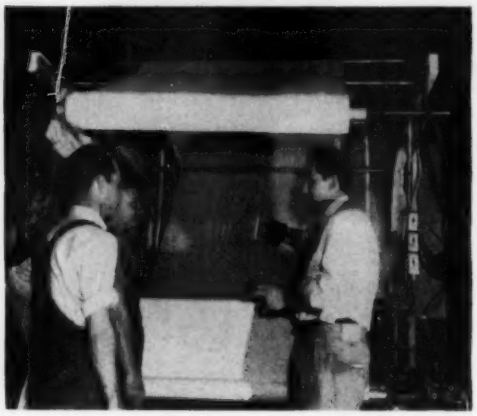
As he is starting it, the fixer checks the running condition of the loom—the operation of the dobby head and box motion, the alignment of the reed, the transfer motion, the stop motions, and the boxing of the shuttle to forestall any trouble that may arise.



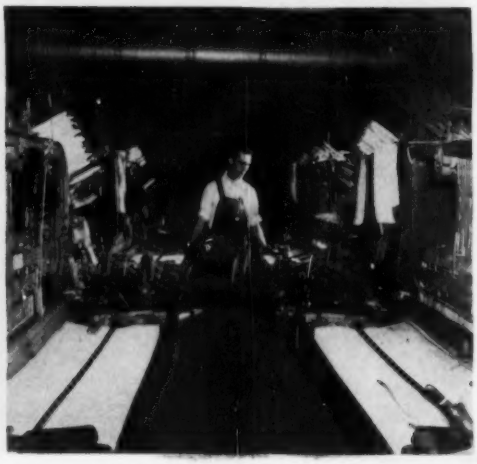
THE FIRST FULL CUT from each new warp is inspected by the second hand on grading frames located in the weave room. If Jeff Harper, the second hand shown here, finds any major weaving defects, he will show them to the weaver and fixer.



ALL GRAY FABRIC IS INSPECTED and graded in the cloth room just below the weave room. The graders, like Marie Brown shown here, have instructions to put all seconds aside to be taken back to the weave room so that the weaver and fixer can see the defects.



ALL SECONDS ARE SHOWN to the weaver and fixer. Second hand Jeff Harper, right, points out the fuzzy edges of a fabric to the weaver, Francis Tucker, left, and the fixer, David Cameron, center, on a grading frame in the weave room.



WEAVERS PATROL THEIR ALLEYS continually looking for possible defects. Francis Tucker is checking for fuzzy edges especially, because of the cut that was just returned with that defect. His fixer, David Cameron, has replaced the temple rolls which caused the defect.

First Cuts Are Checked Carefully

As soon as the loom is running, the fixer notifies the cloth doffer that a new warp is on. The cloth doffer will come to the loom after a few yards have been woven and cut off a swatch. He marks the loom number and the fabric-style number on the swatch and takes it to the swatch checker in the cloth room.

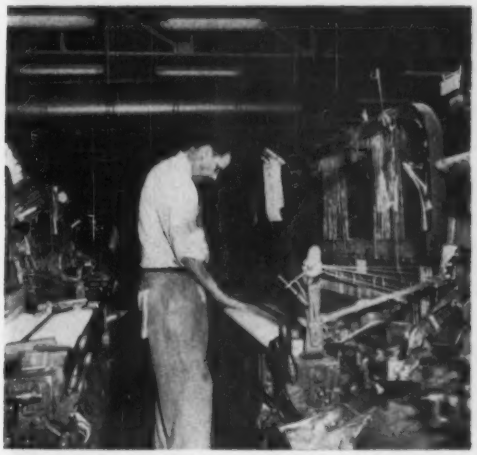
The swatch checker dyes the swatch in the cloth room and inspects the fabric for yarn or weaving defects. She checks to see if the construction is right, if the correct yarns are used, and if the draw is right.

If the swatch shows any defects, they can be corrected before many yards of the fabric have been woven, and the rest of the warp will weave satisfactorily for all concerned.

When the first cut is woven, it is taken by the cloth doffer to the second hand. Each second hand has a grading frame in the weave room.

The second hand inspects this first cut. He is looking for major defects which would be likely to cause the fabric to be a second. If any major defects show up, he will call the weaver and possibly the fixer over to the grading frame to see the fabric so that they can be sure to correct the cause of the defect.

This cut and all other ones are inspected and graded by graders in the cloth room.



THE SECOND HAND CHECKS THE LOOM to see if the defect has been eliminated. Jeff Harper has received a note from the fixer saying that this loom is ready for his inspection, and he is shown checking it to see if the defect has been eliminated.

THE GENERAL OVERSEER, Bill Jenkins, spends much of his time in the weave room keeping his eye on the job. You don't have to stay in the room long to see him with his sleeves rolled up, as he is shown in this picture, working on a loom.

Weaves and Fixers See Seconds in Weave Room

When a grader classifies a fabric as anything other than first quality, that cut is returned to the second hand in the weave room. The second hand will call the weaver and fixer on whose loom the fabric was woven and examine the fabric with them.

Together they will inspect the cut and check the defects. The weaver or fixer then goes back to the loom to correct the cause of the defect. As soon as it is corrected, the second hand is notified and he checks the loom.

The important feature of this set-up is that each second hand has a grading frame in the weave room. The weavers and fixers can see the defects without being away from their jobs more than a few minutes. This procedure enables them to do a better job more efficiently than if they had to go to the cloth room to see their seconds.

ALL OF THE SUPERVISORY PERSONNEL meet once a week. They discuss future plans, cost, production, and quality. Arnold Sanders, left, who is superintendent of Hillcrest Throwing Plant and was acting superintendent of Greensboro Weaving Plant during an illness of Supt. L. A. La Marr, is shown discussing the past week's cost and production with all of the overseers and second hands. These informal meetings result in real cooperation among members of the various departments.

YARN QUALITY AND APPEARANCE have been improved by the installation of automatic cleaning, say R. J. Gurney (right) and J. J. Hinds (left), president and general superintendent respectively, Gastonia Combed Yarn Corp.

CAMERA TOUR:

AUTOMATIC CLEANING Pays Off For Gastonia Combed Yarn Corp.

▶ The new Clara Mill of Gastonia Combed Yarn Corp. has automatic cleaning throughout. Here's why—

. . . Quality is of major importance here, and installations in other plants of the organization have proved that automatic cleaning improves quality

▶ In addition to improved quality, here are some of the benefits the company is getting from automatic cleaning—

. . . Card room efficiency at Dunn plant is up 5%

. . . Underframe cleaners at Clara plant save $9,000 per year in hand cleaning

. . . Ceiling cleaning by hand has been virtually eliminated

By W. A. THOMASON, JR., *Southern Editor, TEXTILE WORLD*

"THE SOLE REASON for putting in automatic cleaning was to increase quality, but we're getting a lot of other benefits," said Joe Hinds, general superintendent of Gastonia Combed Yarn Corp., Gastonia, N. C.

The "other benefits" described by Mr. Hinds add up to increased production and lower labor costs.

The company has not increased work loads at all, but the labor savings come by virtual elimination of hand cleaning. On the 48 spinning frames at Clara mill alone, this saving amounts to about $9,000 per year. That's a pretty good secondary return on a total investment of only $28,000.

One mill, not in this organization, increased work loads when automatic spinning-frame cleaning was installed, and reportedly paid for the installation in about four months.

Gastonia Combed Yarn Corp. put such high value on top quality that it reaps its main reward in cleaner yarn with a better appearance.

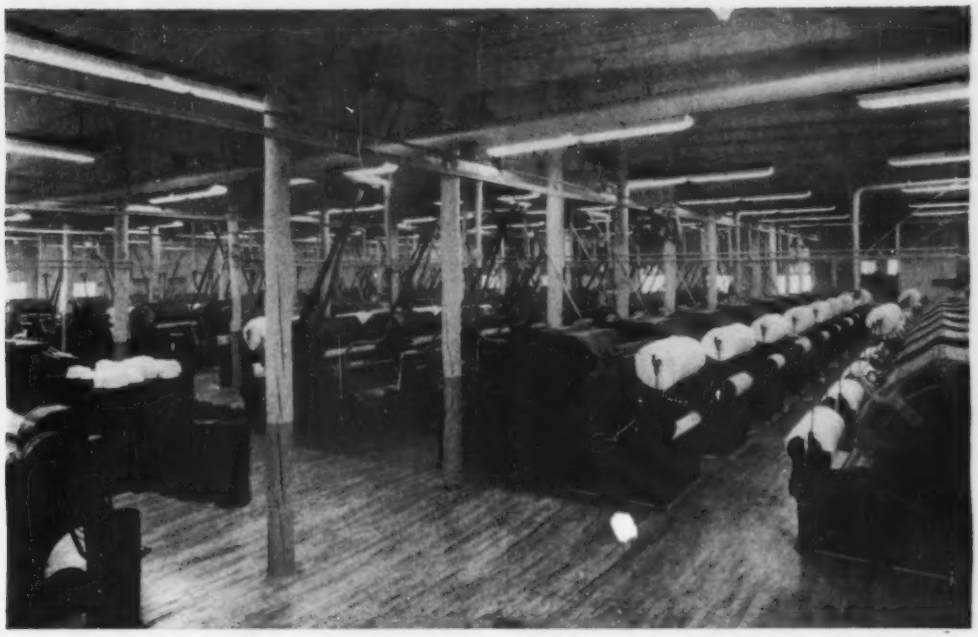
Production is increased in the card room, because the machines do not have to be stopped for hand cleaning of the ceiling. The automatic cleaners have virtually eliminated this time-consuming job.

In the spinning room, the increase in production results from this factor, as well as the elimination of underframe cleaning by hand.

Automatic cleaning is either already installed in or on order for all plants of this organization. All of the cleaning equipment is manufactured by American Monorail Co., Cleveland, Ohio; and the installations are planned by its engineers.

Now, take a tour with us through the new Clara Mill of Gastonia Combed Yarn Corp., and see how the automatic cleaning works.

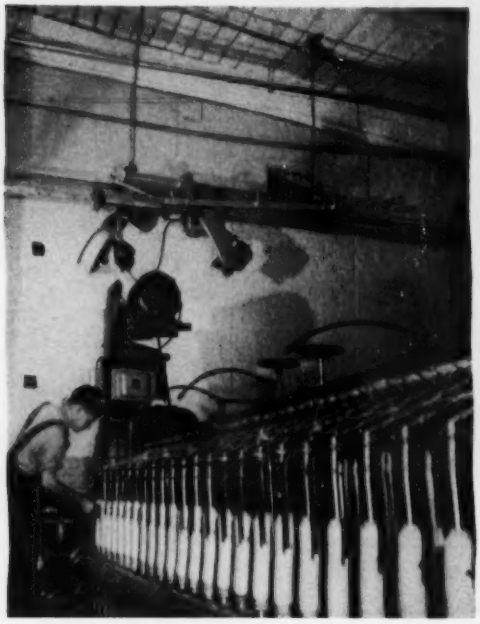
CAMERA TOUR: Automatic Cleaning at Clara Mill



OVERHEAD CLEANING has been installed in the card room since September 4 and the ceiling has not been hand-cleaned yet. The ceiling of the Dunn plant card room has not been hand-cleaned for two years.

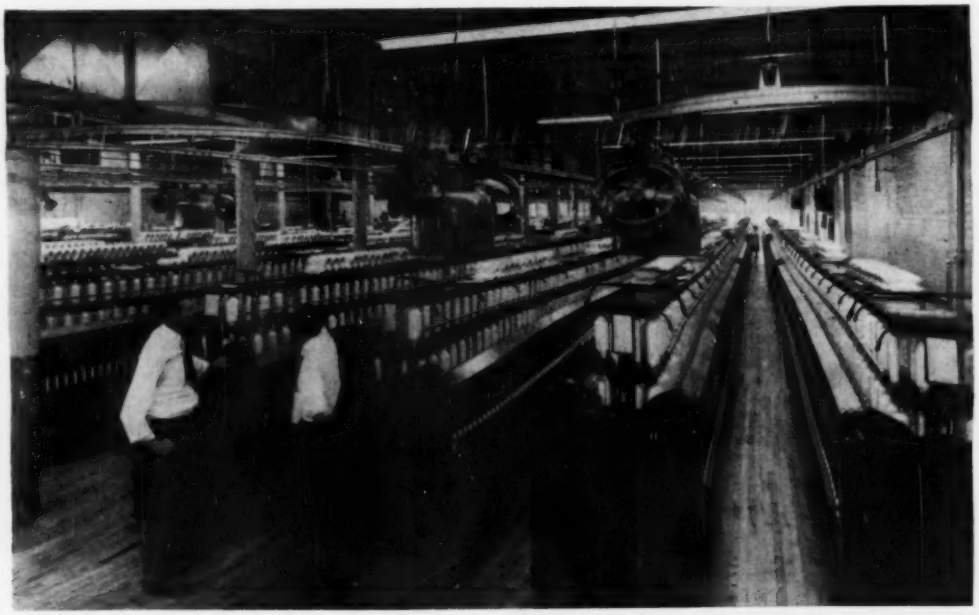
ONE OVERHEAD UNIT, supplied by American Monorail, takes care of the entire card room, which has 72 cards, 4 lap winders, 36 deliveries of drawing, 14 model-J combers, and 10 roving frames. The room is approximately 100x225 ft. in size.

CAMERA TOUR: Automatic Cleaning at Clara Mill



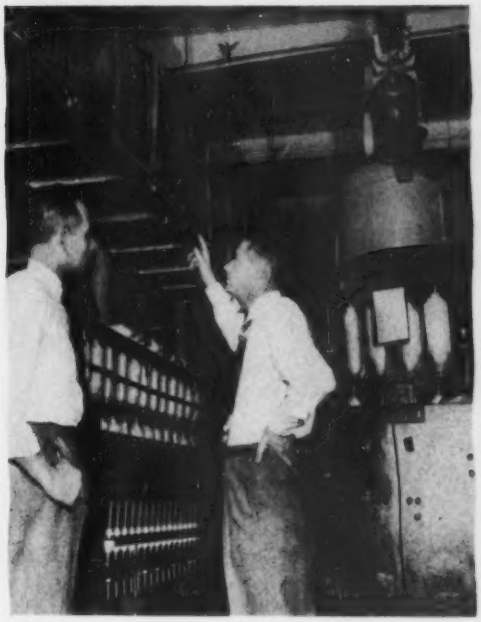
FEWER ENDS DOWN have been noted by this roving-frame operator, Ervin Brafford. Increased efficiency, however, is secondary to the improvement in quality.

"MY JOB IS EASIER because of the overhead and underframe cleaners," says Ada Lambert, a spinner for 10 years, to W. B. Helms, overseer of spinning and finishing.

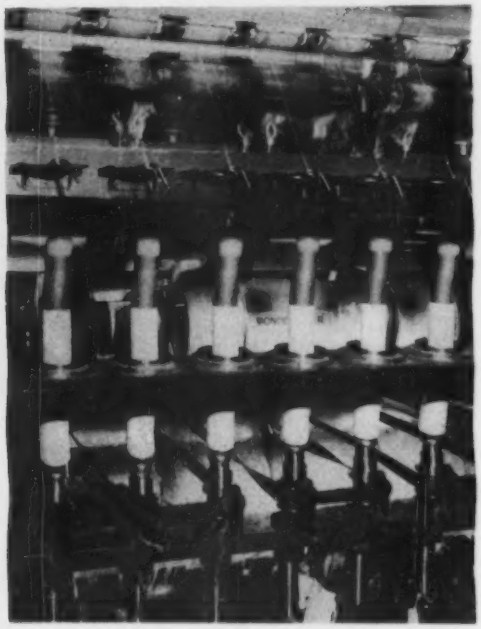


OVERHEAD AND UNDERFRAME CLEANERS are installed throughout the spinning room. Each frame has an underframe unit, and four overhead cleaners cover the 48 spinning frames and keep the ceiling clean. E. D. Horton (right), superintendent of Clara and Dunn Mills, is shown discussing the installation with Forrest Kulp, district manager in North Carolina for American Monorail Co.

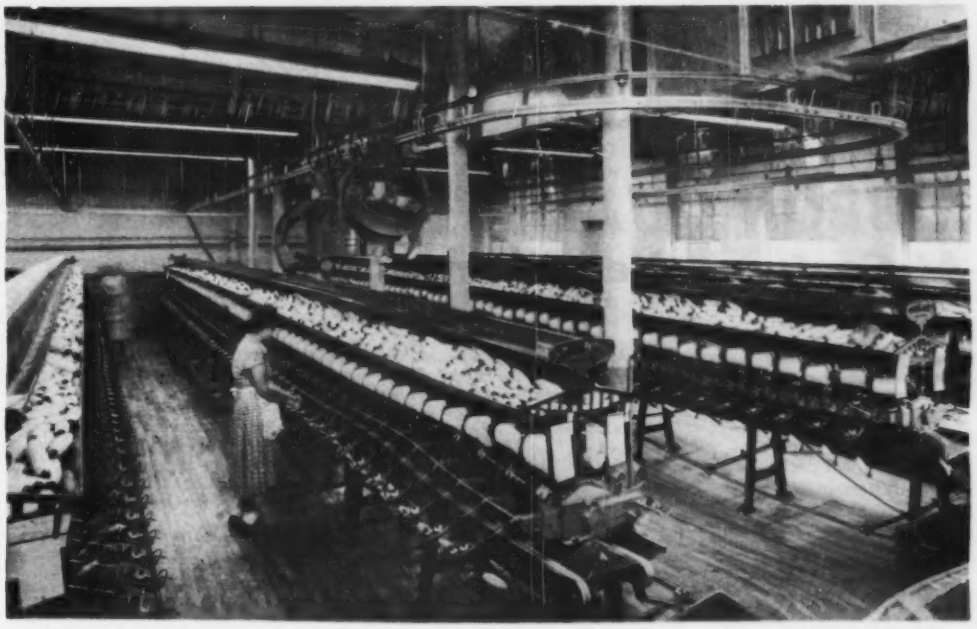
CAMERA TOUR: Automatic Cleaning at Clara Mill



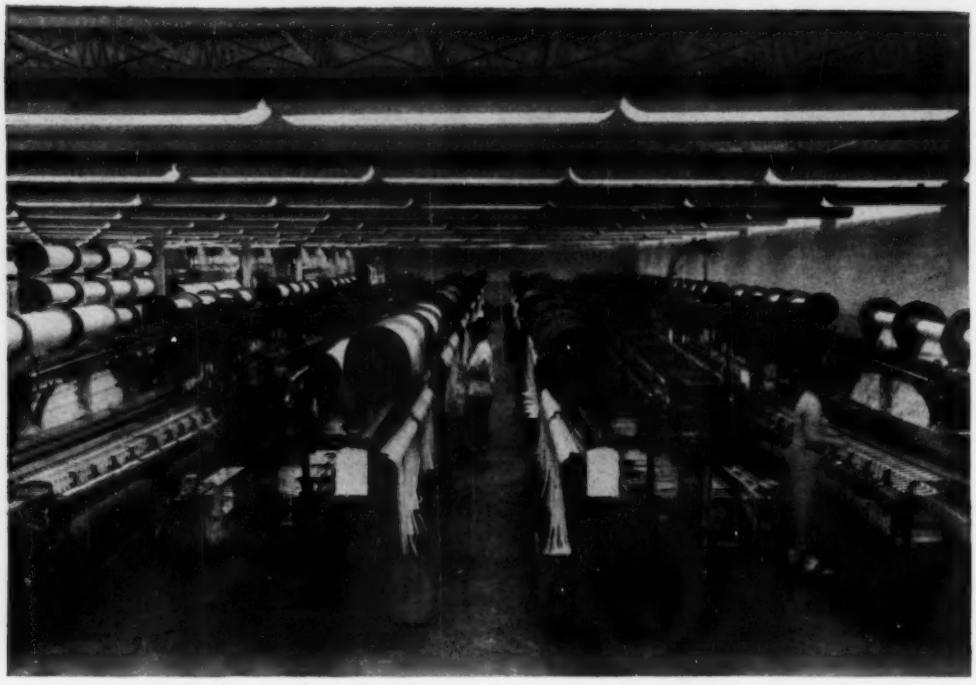
"THE CEILING AND AIR-CONDITIONING duct-work have not been hand-cleaned since the overhead cleaner was installed," Mr. Horton (right), tells Mr. Kulp.



THE UNDERFRAME CLEANERS do the work of three men on these 48 spinning frames. They improve production efficiency as well as the quality of the yarn.



ONE OVERHEAD CLEANER serves the four Roto-Coners. All of these automatic cleaning units are expected to pay for themselves in two or three years in increased production and labor savings in cleaning alone. It's hard to put a monetary value on quality, but the officials of Gastonia Combed Yarn Corp. are sure they could get their money's worth in better quality only.



WEAVE ROOM is square shaped to reduce travel and facilitate supervision. Aisles are wider than normal—28 in. at the loom-fronts, 4 and 5 ft. in back—to aid ribbon inspection, free movement of supplies and product, and automatic warp tying. The few steel pillars necessary are placed out of the way at aisle corners close to the looms—a good example of the benefits that can result from "building the mill around the machines." The "whip rolls" over which the product runs to the receiving boxes have been raised to a height of 42 in. to make thorough inspection easy by regular inspectors. This height also provides for simple "spot" or general inspection by mill supervisory personnel. Looms have been equipped with Century-designed battens of the "circular-shuttle" type for durability and the maximum number of shuttles per loom. Harnesses are unusually heavy and employ duplex heddles to reduce warp crowding. Unisorb vibration insulators are used under all looms to reduce noise. The top of a special hoist truck designed by Century for transporting and mounting loom beams is shown against the right-hand wall. Note the strip fluorescent lighting.

All photographs are by Wm. E. Bonsor, Newport News.

RIBBON QUALITY Attained At Century's New Weaving Mill

Company "pulls out all the stops" to give latest plant at Newport News most everything, including:

- **Air conditioning**
- **Efficient plant layout**
- **Strip fluorescent lighting**
- **Windowless building construction**
- **New warping, slashing, quilling**
- **Functional painting**
- **Automatic warp tying**

By JOHN J. LOWE
Superintendent of Mills
Century Ribbon Mills, Inc.

WE AT CENTURY decided to "pull out all the stops" when planning to replace several of our old mills with a brand new one at Newport News, Va. Our president, Irving Levy, decided that this new plant must have all the features necessary to produce the topmost quality in narrow fabrics.

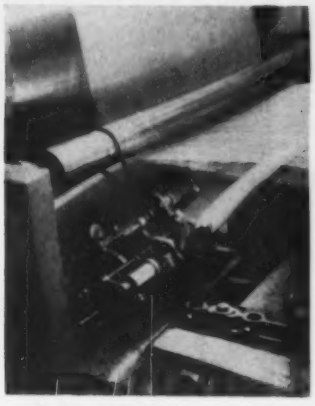
The products to be woven included shoulder strappings, decorative ribbons, typewriter ribbons, blanket bindings, tying ribbons, and many other classes of narrow fabrics. We didn't know then that before the mill was a year old we would be meeting the rigid Air Force specifications and producing parachute shroud lines, parachute bindings, and other webbings in large volume.

We also, of course, intended that in the design, construction, and equipping of this plant we would leave no stone unturned in developing maximum efficiency consistent with high quality.

The result is a mill of which we are very proud. We believe it is the most modern of its type in the world.

Of all the outstanding features that were incorporated in the Newport News plant, the most important is air conditioning. Although the comfort of the employees was a factor in

OUR HEAD QUILLING is done on high-speed machines recently developed by H. E. Glodde, Oakland, N. J. The pigtail yarn guides are hinged to the ends of short bars adjustably mounted or pivoted at their centers and moved back and forth by contact with a traversing bar at the rear that extends the length of the machine. These machines are simple to operate, adjust, and maintain; and they wind about ten times more in production per spindle than the headless-type quillers on the same yarn. We find, incidentally, that a double-headed quill with the coils wound parallel will hold more yarn than a headless package with the yarn wound criss-cross.



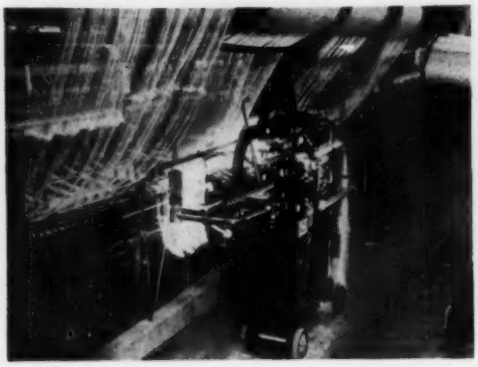
WARPING AND SLASHING are located in the twin rooms of a wing that is separated from the square weave room by glass partitions. The warper room is air conditoned; the slasher room, which would not be benefited technologically by air conditioning, is merely well ventilated. Also, there is an overhead tramrail to convey beams from warper to slasher. Isolation of the warping keeps weave-room fly out of the yarn tension controls. Note that, in keeping with the principles of a modern production line, yarn cones enter the wing at the left and finished warps come out at the right. Both rooms have the latest production equipment—a Sipp Eastwood high-speed creel, a high-speed spindle-driven Cocker warper, and a seven-cylinder Cocker "cotton-system" slasher, the latter equipped with Taylor control instruments, Reeves tension control, syphon condensate removal, and Simcoe static eliminator. We prevent the spiraling and sidewise creeping of our slasher quetsch-roll coverings by putting the boots on the rolls three months ahead of use, wetting them at that time and then allowing them to dry out thoroughly and age until ready to use.

SLASHED WARP YARN is often needed at the looms for piecing in a broken or missing end. If this piecing yarn is not slashed with exactly the same tension as the warp yarn, a streak defect can easily occur after finishing. We insure that this yarn is slashed identically with the warp by feeding a cone of yarn from the same lot to the slasher and winding it on a simple winding head developed by the mill. This head is mounted on the slasher in front of the final drying cylinder. We also use this extra end for testing the finished sizing on the yarn.

favor of this installation, an even more important consideration was the maintenance of product quality with a minimum of machine adjustment.

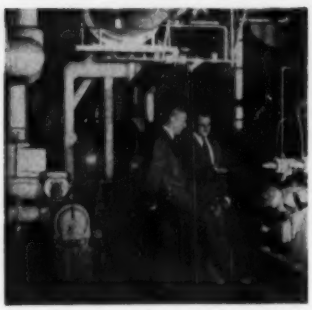
In rainy weather, for example, the brake bands in this air-conditioned mill do not tighten, the passage of the filling through the shuttle eyes does not become sluggish, the yarn does not drag going over the glass bars, and the loomfixer does not have to rush around lightening the let-off weights. In dry weather nothing dries up, no tensions have to be increased, and there is no need for adding weights or otherwise adjusting the looms. All this means uniform yarn tension; and uniform tension means uniform edges and widths—two most important factors in ribbon quality. The highest quality cannot be maintained in a mill where operations are affected by weather changes.

Furthermore, with air conditioning there is less likelihood of rayon being stained and of heddles and reeds being rusted by perspiration from the hands of the weavers. Again, the yarn in the looms does not become brittle and filled with static. Finally, there is no danger that a damp weekend will swell the wood in the battens and therefore no need for having the shuttle blocks made larger than they should be to provide a smooth shuttle motion. We run our air conditioning



AUTOMATIC WARP TYING is not common in the narrow-fabric industry. Of course, it wasn't long ago that we ribbon weavers began to adopt the large beams. The use of these beams made automatic warp tying quite feasible. It is necessary, however, to have adequate space in back of the looms, and such space was provided when this new mill was planned. The portable Barber-Colman machine shown above ties 400 knots per minute. We estimate that it will pay for itself in about twelve months.

MULTI-BEAMS have to be mounted on many of the looms for producing tubular parachute shroud lines. This loom, at the end of the present weaving area, is waiting for the Barber-Colman tying-in machine. The weight of the warp yarn shown on this loom exceeds 5,000 lb. Additional looms, under erection, are visible in the rear. Electrical power outlet in right foreground shows where still another loom will be placed. Note how posts are located out of the way at aisle corners.



ONE OF THE TWO 40-TON REFRIGERATION COMPRESSORS, made by Carrier, is examined by the author, left, and Calvin Baumer, plant manager of the Newport News mill. Behind the men is an Orr & Sembower 30-hp. boiler for the slasher and also an Amesteam low-pressure boiler that serves the air-conditioning system. At the left of this room, not shown, is the oil-grid air filter made by American Air Filter Co. and also the Carrier air washer. The system employs American Blower and Buffalo Forge fans, Yeomans water pump, Bell & Gossett water heater, Acme water cooler, Johnson controls, and Westinghouse panel board. Atmospheric conditions in the mill are kept at 76° F. and 63% relative humidity within 1½% fluctuation. The contractor for air conditioning was Newsome Air Conditioning Co., Newport News.

CORNER OF EMPLOYEES' RECREATION ROOM, which is equipped with coffee urn, radio, and other facilities. Additional accommodations for employees include modern wash rooms and an infirmary. The employees, many of whom are the wives and daughters of workers in the Newport News shipyards, particularly like the air conditioning that is such an important feature of this new plant. In fact, some employees have told us that during the summer they would prefer to be in the mill than at home. The visitors' reception room and offices, too, are attractive; and a window-box hedge just outside the recreation room and offices adds to the pleasing appearance.

LARGE WINDOW between reception room and outer office is used for information and payroll purposes and typifies the open and wholesome appearance that the entire mill presents to both visitor and worker.

every hour of the week, including weekends.

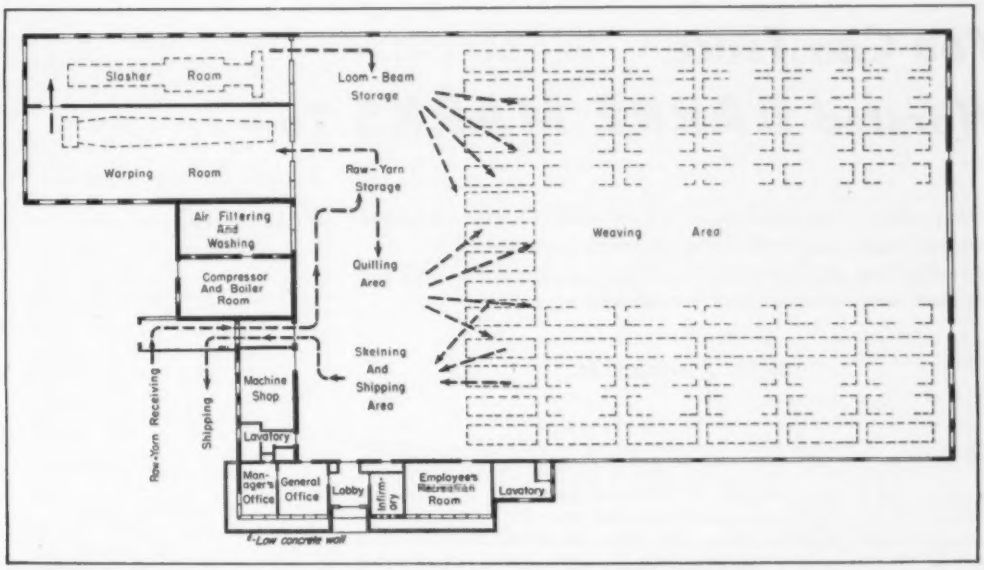
Long experience has proved to us that, as loom speeds are increased, the chances for imperfections are also increased. While some mills run loom speeds approaching, and possibly exceeding, 200 picks per minute, we find the best results for sustained quality are attained at about 120 picks per minute.

The actual speed will vary up or down, depending on the width and type of goods being woven. The narrowest goods, usually about ¼ in. wide, require a relatively small shuttle and a short shuttle stroke. Wider goods require larger shuttles and longer shuttle strokes, with a necessary decrease in loom speeds.

By keeping loom speeds low, we eliminate any chance of stop marks caused by the normal "over-throw" of the batten between lay heads. We also reduce the "mental jitters" that a weaver has when operating looms at excessive speeds.

A good question at this point would be, "How can you compete with mills that operate at very high loom speeds?" The answer lies in the fact that a weaver can run additional looms at the lower speeds. There is no more effort required to tend a total of 510 shuttles at our normal loom speeds

AIR-CONDITIONING TOWER is, as might be expected, the high point on silhouette of this modern one-story mill. Shipping platform is below it. At left of front door is the office; at right, the employees' recreation room. At extreme left is the warping and slashing wing; at extreme right, one end of the 84-loom weaving shed. Double walls, with air space between and an inner face of rough-surface concrete block, give excellent insulation and reduce noise. Work rooms are windowless, but high strips of glass block let in daylight and present an attractive appearance. Interior painting is functional, with a pleasing light apple green as the base color, with yellow for all reciprocating machine parts, and with red for danger points. Ceilings are concrete slab, surmounted by a multi-layer roofing of glass fiber, tar paper, asphalt, and gravel. Ceilings and roof are supported by all-welded truss work. Concrete floors are treated with Penetram to prevent "dusting." All power wiring is in conduits in the floors. The architects and engineers were Williams, Coile & Blanchard, Newport News. Architect Joseph W. Weiss, New York, was called in as general consultant.



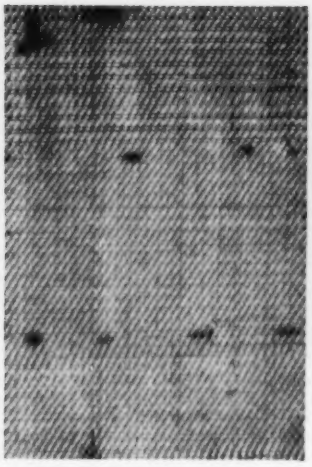
FLOOR PLAN of Newport News mill shows good production flow. Note how warp yarn, for example, takes a convenient U-turn on its way from the main building through warping and slashing and back to the main building. Plan also shows how air-conditioning rooms, machine shop, office, recreation room, and other auxiliary facilities have been kept outside the main production area.

tnan there is to tend 340 shuttles at 50% higher loom speeds.

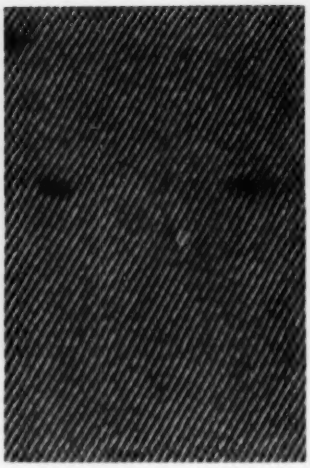
True, our equipment investment is higher; but this is offset by reduced maintenance costs at low speeds, by higher efficiency averages, and by reduction of employee fatigue. The end result is quality at minimum cost.

You will find the other features of this mill explained under the pictures.

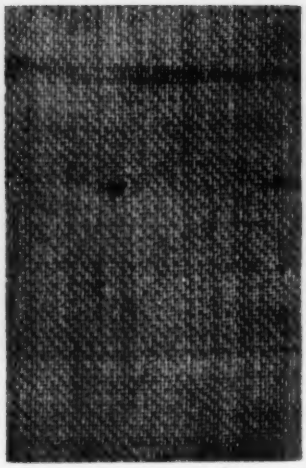
Many people have asked us why we decided to put our latest mill in Newport News. Primarily it was because of the ample, high-quality labor supply there. The shipyards keep thousands of men busy even in normal times, but they do not employ large numbers of women. Our type of work therefore provides income for the female members of the families. They find work in the ribbon mill preferable to many other occupations. We think the accompanying pictures help to explain why.



1. MIXED FILLING was the cause of this lighter-shade series of picks.



2. IRREGULAR STEAM PENETRATION causes what looks like mis-draws, but isn't.



3. UNEVEN WARP AND FILLING yarns can produce longer barre marks as well as streaks.

You Can Trace Worsted BARRE MARKS To—

▶ *Here's a discussion of various causes of barre marks in worsted fabrics, and some good suggestions for eliminating the trouble or troubles*

▶ *Remember that there are at least 12 simple causes of barre marks, and that these causes sometimes work in combinations*

By W. J. WOOLSTAN

"BARRINESS" in worsted fabrics is always present to some degree; especially fillingwise across the cloth. The causes of barriness, by the same token, are legion; and in many cases they are difficult to trace.

Warp and filling barré marks take their name from the French word for the way in which the defect shows itself. They are distinct from all other faults in that they produce a straight sharp line which may be either darker or lighter in shade than the bulk of the fabric.

Warp barré marks naturally run lengthwise and usually in straight line sections. Invariably, the clear-cut line isolates itself to one distinct end. This fact proves that dyeing could not produce the effect, even if the marks were indiscernible in the gray. The fault lies elsewhere.

HOW TO CHECK. There are two main causes of barré marks: mechanical and physical. Included in the mechanical are defects in spinning, winding, slashing, and weaving. It should be remembered that all mechanical defects, other than perhaps defects on the loom, have a direct bearing on the yarn itself. Physical defects can be improper blending of stock or faulty conditioning of yarn.

–BLENDING

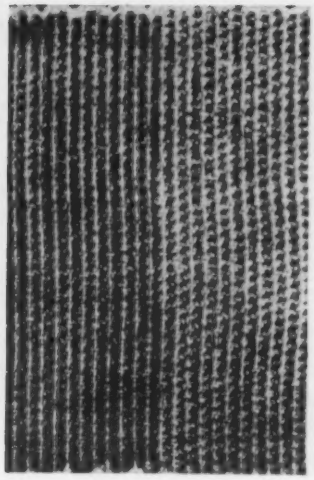
In cases where two supposedly similar yarns each show an average number of fibers in their cross-section, but with big differences in percentages over several isolated pieces, it proves an advantage to check for bad blending. For this check, a micron analysis is sometimes called for. Several years ago the author proved a case of barré marks conclusively by this method. Or, upon occasion weighing of enough yards of enough ends pulled out of the fabric, or inspection of yarns on blackboards, may be sufficient.

Remember that quality may be had by blending. For example, 58s blended with 64s can give an equivalent 60s. In such a case, the yarn supplier should always give the stock another lot number to help the mill avoid serious trouble.

–SPINNING

A subheading, "Mixed Yarn," would cover a multitude of sins in the spinning room. When counts of yarn are mixed, the fault is easy to find. Or often the counts are the same, but the yarn qualities are different. Or count and quality may be all right, but twists

4. EXCESSIVE TENSION and moisture in winding flattened this crepe on the right side.



5. DARKER ENDS are a warp barre in this piece of Bedford cord.

12 Causes of Barre Marks in Worsted Fabrics

1. Mixed stock: grades, blends, sliver, roving, yarns
2. Over- and under-drafted yarns
3. Different twists; hard twist is duller
4. Different-sized rings, caps, or travelers
5. Different spinning or twisting speeds
6. Different types of frames
7. Old yarn lots mixed in with newly made yarn
8. Rewound yarns: S- and Z-twists mixed
9. Overstretched yarn: excessive winding tension
10. Twist-fixing mixed: wet- and dry-twist yarn run together
11. Fiber destruction: through fermentation or chemical action
12. Defective loom take-up, let-off, or filling tension

may be different; for example, a Z-twist yarn mixed with S-twist yarns; or harder or softer twists mixed together.

Mixing cap-spun yarns with ring-spun yarns can cause trouble. The author once even traced very light barré effects to yarns spun on different-sized rolls. It was once proved in a certain case that the spinner had oiled his wool with two different types of oil. The yarns were mixed later, and the dyer had to remedy the defect by thoroughly scouring the pieces before dyeing them.

Lot or run numbers should be handled with care; don't mix them haphazardly. The spinner gives new lot numbers for your guidance; respect his care and knowledge.

–WINDING

Yarns receiving heavy tension become somewhat stretched; when relaxed they try to assume their original state. Whether they are allowed to revert to their normal state or not, barré marks are almost always the result. Uneven treatment during warping or filling winding, and hard and soft spools and pirns, are to be avoided at all costs. Backwinding has been proved to cause some barriness in fabrics.

Always wind filling on the package in the same direction. Never mix yarn from clockwise-running with anti-clockwise-running spindles. Make sure all filling going to any one loom turns off its package in the same direction.

–CONDITIONING

The most difficult-to-trace cause of barré marks is the moisture content (condition) of caps. This content appears to be one of the more common producers of filling bars. The damper the material, the more readily will the yarn stretch both in winding and weaving.

Upon occasion, yarns should be examined for "setting." They may have been set by aging, by steam, by water, or by two of the three methods. Yarns for certain purposes are set in hanks by boiling for several minutes in water under given tension. These are least likely to produce barré effects, but are rarely used in weaving.

The era of large packages is with us, especially in twisting. Is the outside of the yarn cooked too much? Or is the inside next to the bobbin almost untouched? When the setting process is done by steam, heat and moisture and length of time should be rigidly controlled.

–WEAVING

Mechanical weaving faults are first checked, such as defective let-off motion or irregular take-up. These can cause variation in the number of picks per inch.

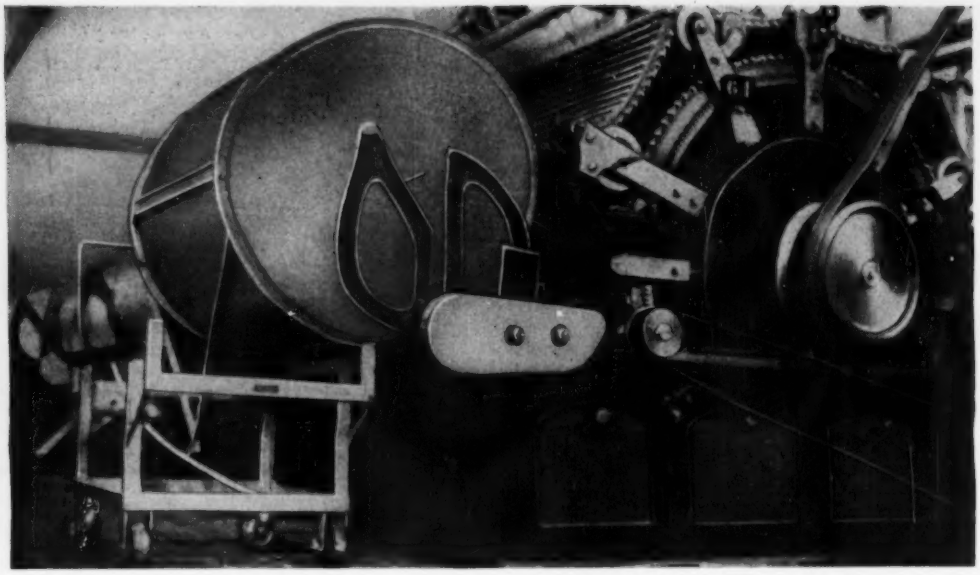
Smooth and hairy yarns woven together give distinct barré marks, both in warp and filling. The source of this defect depends on the number of bars and their duration. Less-smooth yarns may be caused by defects in spinning, cone winding, or winding of the filling. Cracked porcelain eyes, used thread guides, worn travelers, caps, high spindle speeds—all can produce wild yarns.

The only known method, perhaps, of overcoming or keeping to a minimum all barriness is the use of box looms, where the yarn from several filling bobbins becomes so intermingled that the defect to a great extent is lost, and the fabric takes on an even appearance throughout its whole length.

Just What Is Barriness?

Barriness is not streakiness, which is caused by yarn irregularity on a short-term thick-and-thin basis. When yarn is taken from a streaky fabric for testing of counts number over a standard length, the counts very often prove consistent.

Barriness is a straight, sharp-line effect which may be either darker or lighter in shade than the bulk of the fabric. Filling barre marks are sometimes only narrow like ribbons; and in other places may continue for several yards in the fabric.



ONE WAY TO REDUCE the frequency of positioning of laps at the card end of lap pins at the picker is to make bigger laps, handle them with mechanical handling equipment. One cotton mill makes the 175-lb. lap shown above, handles it on a special truck. Picker production is increased by this method.

Materials-handling costs are still upwards of 30% of the total labor cost in textile mills, but of that 30%, 71% is for positioning, the remaining 29% is for transporting. So—to cut handling costs further. . . .

LET'S WORK ON POSITIONING
In Cutting Handling Costs

By **HERBERT L. WERNER,** *President, Werner Textile Consultants*

1. Materials Handling Still Accounts for 31% of Labor Cost

September, 1950

Distribution of Yearly Materials-Handling Labor Costs in a 100,000-Spindle Cotton-Spinning Mill With Regard to Transporting and Positioning

Department	Materials Handling $	Transporting %	Transporting $	Positioning %	Positioning $
Carding	205,504.00	31.5	64,688.00	68.5	140,816.00
Spinning	301,880.00	28.0	90,168.00	72.0	231,712.00
Total $	527,384.00		154,856.00		372,528.00
Percent	100%	29.3%		70.7%	

***AVERAGE LABOR COSTS** of several well-run and progressively operated cotton mills (1950 figures) show that 31% of labor costs are for materials handling. In this 31%, 22% is for positioning, 9% for transporting.*

Condensed from a paper delivered by the author at the recent meeting of the Textile Section, American Society of Mechanical Engineers in New York.

2. But Positioning Is 71% of Materials-Handling Cost

Distribution of Labor Costs in a Cotton Spinning Mill — September, 1950

Equipment: 100,000 Spindles | Production: 4,700 lb. per hr. | Working: 120 hr. per week | Average Count: 16s

Department	No. of Operators	Hourly Wage $	Total Weekly Payroll $	Distribution of Payroll: Processing %	Processing $	Supervision & Maintenance %	Supervision & Maintenance $	Transporting %	Transporting $	Positioning %	Positioning $
Opening, Picking	24	1.03 to 1.30	1,182	45	529	40	473	6	72	9	108
Carding	63	.99 to 1.28	2,726	50	1,350	10	274	15	419	25	683
Drawing	36	1.10	1,585	60	951	10	158	—	—	30	476
Roving	63	1.17 to 1.29	3,033	51	1,541	7	210	3	93	39	1,189
Others in carding dept.	57	.92 to 1.60	2,638	17	449	48	1,277	25	660	10	252
Spinning	462	.92 to 1.60	20,849	41	8,476	30	6,183	8	1,734	21	4,456
Total	705		$32,013		$13,296		$8,575		$2,978		$7,164
Average		$1.15			42%		27%		9%	Materials Handling	22%

***POSITIONING**, or moving of materials onto or off of the machine itself as contrasted with transporting material to machines, accounts for 70.7% of materials-handling costs in this 100,000-spindle cotton mill. Example of positioning are laying the lap on the card, doffing of bobbins from spinning frames. Piecing of ends is considered part of processing labor.*

3. How to Tackle the Positioning Problem . . .

The factors which influence positioning are:

1. Distance
2. Level
3. Package weight
4. Package size
5. Tools
6. Methods

The first three factors affect the energy needed to perform any positioning operation and influence the unit time per operation. We must keep in mind that a worker in the long run can only exert 0.1 hp.—that means lifting 20 lb. 1 yd. in 1 sec. Pushing a car on a horizontal level involves little energy to overcome friction. But bending the body, lifting weights, and all oscillation movements are highly energy-consuming and call for great power, especially if you consider velocity, acceleration and deceleration, normally called the starting and stopping movements. The ballistic movements, on the other hand, such as the swinging of arms, require little energy, and should therefore be widely used for positioning by mill workers.

The importance and influence of package size and weight on positioning have been recognized for quite some time. Both affect not only the frequency of positioning, but human energy to a certain degree as well.

Methods and tools should always be devised so that they conserve human energy.

Each manufacturing process today is broken into four main steps, usually attended to by various operators.

The four steps are:

1. Transporting to the machine
2. Placing onto or into the machine
3. Processing in or on the machine
4. Taking off the machine.

Of these four elements, only No. 3 can be considered as processing, while Nos. 1, 2, and 4 are materials handling, of which Nos. 2 and 4 are positioning. To distinguish between the elements we must bear in mind that processing involves a basic change of the material, in substance, form, and appearance, partially or as a whole. Handling is merely the moving of material without any of the above changes.

All four elements of the process cycle can be done manually as well as mechanically. It is a well-known fact that element No. 3—processing—was the first to be made entirely mechanical and even automatic. The reason is that in former years production was the all important factor. Next came the mechanization of transportation by means of trucks, conveyors, pneumatic systems, chutes, etc. This development assumed increasing importance when wages of unskilled labor reached a point where they became a sizeable factor in the over-all cost picture. At last there remained our stepchild—positioning—which today is still done very largely by manual means.

There are three steps which we must bear in mind when we tackle the problem of how to improve positioning.

1. Reduce frequency of positioning operation
2. Facilitate positioning operation
3. Eliminate positioning operation

No positioning is still the best positioning

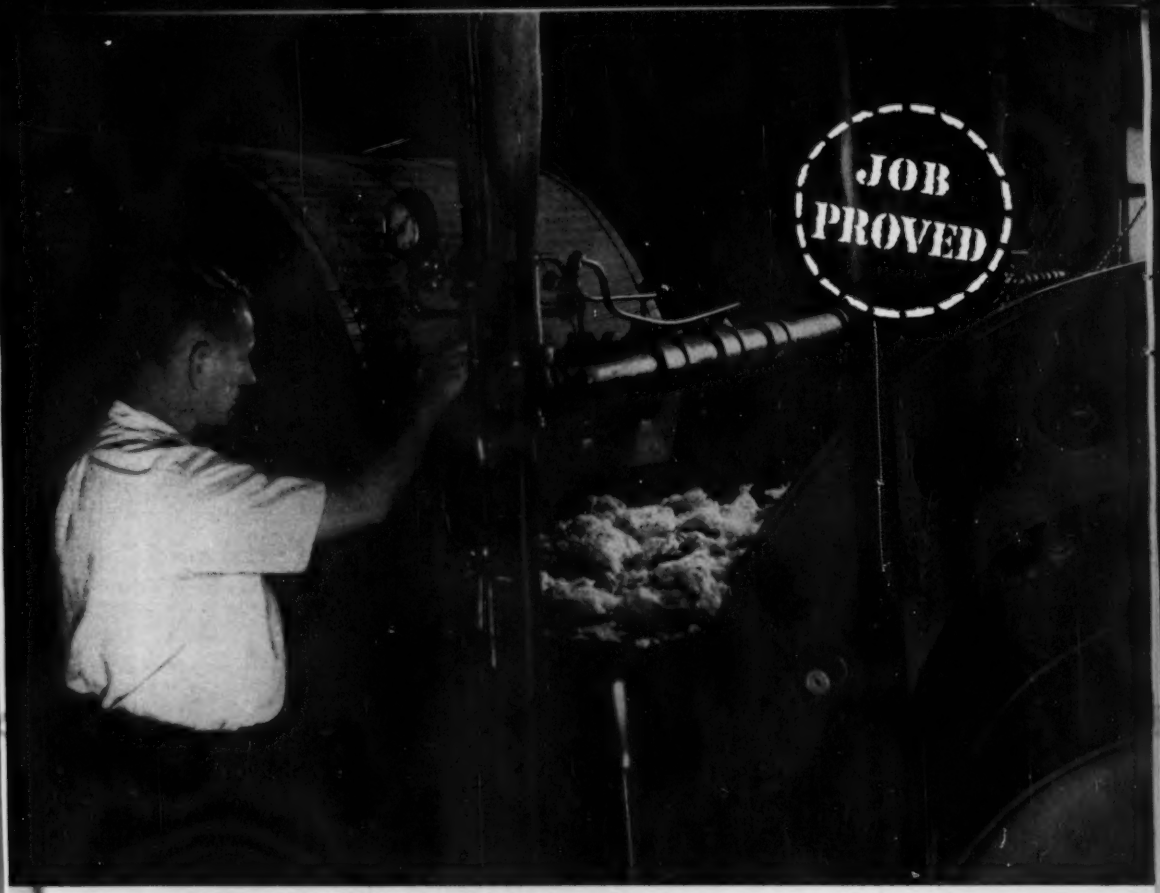
Considerable success has been achieved in the last few years in reducing frequency of positioning through increasing the package sizes throughout the various processes.

To facilitate positioning—that means to ease the operator's labor—is the human approach; at the same time it brings about returns by improving quality and efficiency.

The elimination of positioning through mechanization and automatization is the ultimate goal. After all, mechanical power is in the long run always cheaper than manpower.

Each one of these steps can be taken individually, but very often we find that progress in one direction automatically makes inroads on other factors.

It has been our experience that the first step to be taken in analyzing and eliminating or reducing positioning is a comprehensive job analysis covering all mill operations. Such an investigation must be followed by time and motion study. The M.T.M. system appears to be quite helpful in analyzing positioning operations. This system differs from the more orthodox approach insofar as the gathering of data



"WOULD NEVER RETURN TO LARD OIL"

Sunotex Process Aid Proved 5 Ways Better By Well-Known Manufacturer of Carpets

Processing wool with lard oil or olive oil used to be the only acceptable practice. That was before textile manufacturers discovered the many advantages of Sunotex Process Aid. One good case in point is the experience of a well-known carpet manufacturer.

Until ten years ago this manufacturer would never have considered replacing his lard oil with an emulsifying mineral oil. But he changed his mind after a Sun representative induced him to make a careful and adequate test of Sunotex Process Aid. Why? Because five benefits quickly came to light. Sunotex, he found, scoured out better. It improved quality. It made the preparation of emulsions far easier. It kept his floors and equipment much cleaner. And it reduced costs. Today, his plant men state they "would never return to lard oil even if it was much cheaper."

The way that Sunotex Process Aid worked for this carpet manufacturer is just one example of how Sun process aids enable textile manufacturers everywhere to cut costs, speed production, improve quality, protect valuable machines. For complete information about our products for processing fiber, call or write the nearest Sun Office. The services of a Sun representative are available to you without obligation.

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"JOB PROVED" IN EVERY INDUSTRY

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is not done on the job but by computing of predetermined elements.

These are reach, move, turn, grasp, align, orient, engage, or disengage. What the M.T.M. system does is simply to integrate all these positioning steps.

Another method has been developed by the Du Pont company and constitutes the use of photographic means to study the operator's movements. The device is rather simple. The worker to be studied wears a flashlight in place of a wrist watch. Every movement of his hands is traced on the photoplate and produces a maze of lines. By using this technique, a new machine was designed which reduces positioning to an absolute minimum. Application of this method in the textile industry is likely to contribute to better design of textile machines and simplification of methods.

There are many other basic studies made in this connection, some of them very scientific and theoretical which may, in the future, become practical in actual application.

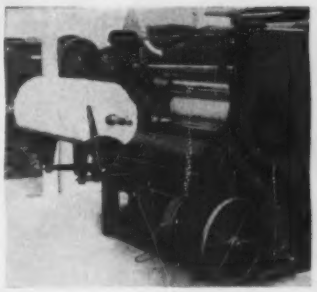
"The Role of Reciprocal Innervation in Colational Movement" which in short means nothing but a study of bending, is one such work.

One of the latest studies of the research laboratory of New York University in New York discusses "Vector Diagram, A Kinematic Record of the Walking Cycle."

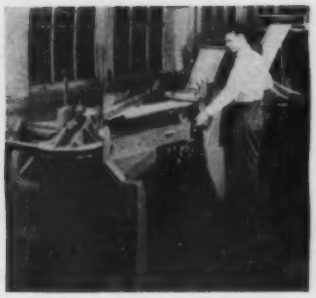
These are some of the tools at your disposal. But I think anyone wishing to go into the problem of positioning would do well to take the following ten principles to heart which have become fundamental to any successful work in this field.

1. Select and concentrate on operations where a great deal of positioning is required and improvement potentials look promising.
2. Check package sizes and make sure that they are best suited for positioning.
3. Study flow of material with the aim of smoothly integrating positioning with transporting and processing.
4. Analyze the operator's assignment.
5. Install tools and methods to decrease fatigue.
6. Set up and control standards for unit time, speed, and maintenance in relation to positioning.
7. Ascertain how new positioning will influence quality.
8. Establish before-and-after cost figures, amortization, profit, and savings.
9. Keep up-to-date on new developments in this field.
10. Be sure that workers understand the value of proper positioning and realize that improved methods benefit them as well as mill operations.

Opening and Picking



AUTOMATIC LAP DOFFER for pickers, made by Rieter, and available from American Textile Engineering, Inc., Arlington, N. J., can assist in reducing and facilitating positioning in lap handling.



THE PACIFIC CONVERTER eliminates much positioning and transporting by combining several individual steps into one operation.

Opening and Picking

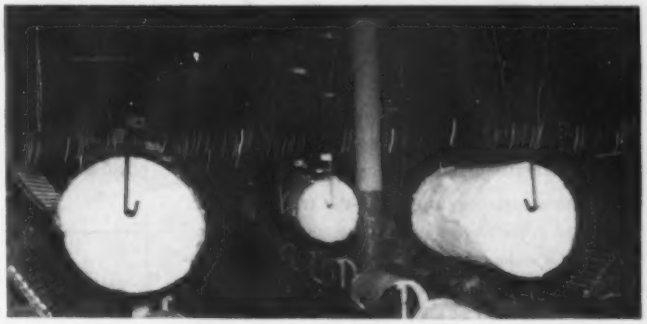
▶ Present methods used for feeding cotton bales stored on the floor are a neglect of proper positioning. Years ago we used long feed aprons which no doubt facilitated positioning. Now, to find something better represents a challenge to engineering ingenuity, although it is questionable whether sufficient savings can be obtained to make it worthwhile.

A striking example of complete elimination of positioning in the same department has been the one-process picker, which combines into one unit the operation of three individual pickers and has been generally accepted throughout the cotton branch of the textile industry.

Great progress has been made with regard to increased weight of picker laps. Greater lap weight is being accomplished in certain instances even without increasing the diameter of the lap. The average lap weight used to be around 40 lb. and has recently been increased to 55 to 60 lb. It received new impetus by the development of a new pneumatic pressure system (by Saco-Lowell Shops).

Some mills are claiming increases in lap weight up to 90 lb. and even up to 175 lb. However, the suitability of such heavy laps still awaits further evaluation and practical use.

Carding



OVERHEAD LAP CONVEYORS can carry laps from the picker room to the spare-lap rack at the card. The conveyor hanger can be used as a spare-lap rack, or automatic devices can place lap in the spare rack on the card. In either case, positioning is facilitated.

Carding.

▶ Some progress is being made in increasing can content for cards, drawing and roving through:

1. More coils per layer.
2. Weight applied on tube gear.
3. Compressing card sliver.
4. Converting 12-in. coilers to 14-in. coilers.

There is also a strong tendency to get away from the use of cans, which are awkward from the positioning and transporting point of view, and replacing them with balls or laps. Otherwise very little has been done about positioning in these departments.

The card room is an area where considerable improvements could still be obtained. Anyone familiar with these processes must frequently have thought about a way, for instance, to mechanize lifting of flyers and doffing of roving frames.

This Steel-Service Team for Textile Industry Requirements

Convenient to manufacturing centers from coast to coast, thirteen Ryerson steel-service plants stand ready to supply the textile industry and its equipment builders.

True, shortages resulting from the twin pressures of defense requirements and unprecedented civilian demand may make it impossible for us to furnish every item on every order, much as we would like to. But it *is* likely that most of your requirements are among the stainless carbon and alloy steels we have on hand for prompt shipment. And experienced Ryerson steel men are always glad to work with you—help you make the most of available steel.

From switchboard to shipping floor all of us are ready to give you prompt service whenever humanly possible. So call us for every steel need.

PRINCIPAL PRODUCTS

CARBON STEEL BARS—Hot rolled and cold finished.
STRUCTURALS—Channels, angles, beams, etc.
PLATES — Many types including Inland 4-Way Safety Plate.
SHEETS — Hot and cold rolled, many types and coatings.
TUBING — Seamless and welded, mechanical and boiler tubes.
ALLOYS — Hot rolled, cold finished, heat treated.
STAINLESS — Allegheny bars, plates, sheets, tubes, etc.
REINFORCING — Bars and accessories, spirals, wire mesh.
BABBITT — Glyco bearing metal, also Ryertex plastic bearings.
MACHINERY & TOOLS—For metal fabrication.

RYERSON STEEL

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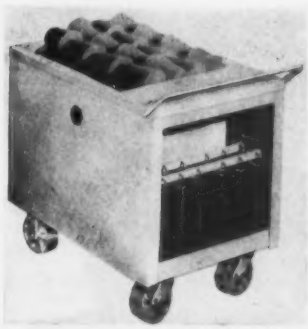
DETROIT • PITTSBURGH • BUFFALO • CHICAGO • MILWAUKEE • ST. LOUIS • LOS ANGELES • SAN FRANCISCO

ASME Analyzes Mill Modernization

Spinning



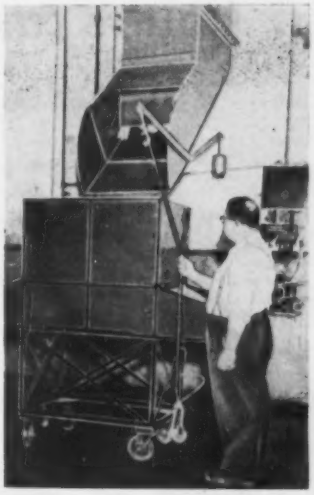
TRUCK WITH SELF-ADJUSTING BOTTOM can facilitate the removal of bobbins, spools, and cones by keeping those that have to be removed at the same level easily reached without the employee bending down.

Spinning.

►A new idea, still in the development stage, is elimination of topboards from roving or spinning frames and creeling roving bobbins directly from the trucks onto ball-bearing clips. This method does away entirely with one positioning operation and at the same time makes the work of the overhead cleaner more effective.

The natural trend is toward increase of bobbin sizes. We find, however, often that the increased possibilities through longer traverses have not been fully taken advantage of. For longer traverses or bigger bobbin diameters, due consideration has to be given to front-roll speed, traveler speed, winding angle, gage and available floor space.

Spooling & Winding



A SPECIAL TRUCK, developed by Warner Textile Consultants, combines the advantages of transportation and positioning.

A BOBBIN CONVEYOR for the Barber-Colman spooler which is available from Whiting Products Co., Camden, S. C., facilitates the positioning of spinning bobbins.

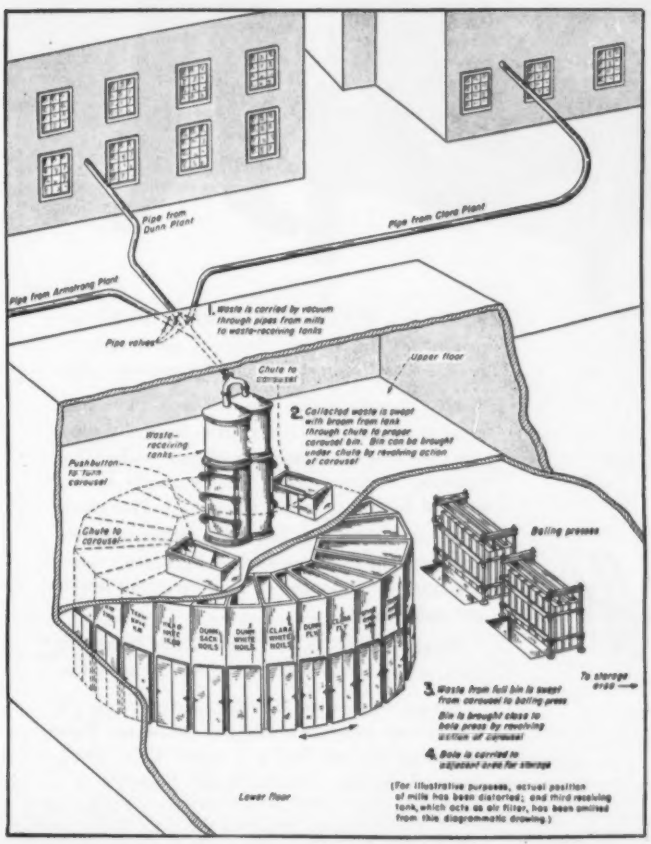
Spooling and Winding.

►In these departments, positioning has really come of age. Many installations and systems are on the market, all of which have been devised to facilitate or mechanize positioning on winders, spoolers, and quillers, for either creeling or doffing purposes.

The Abbott winder and quiller incorporate many of the principles of good positioning. Material is moved to the operator who remains in a comfortable sitting position while doing his job.

The Barber-Colman automatic quiller is a splendid example of how manual procedures can be replaced by automatic devices. On this quiller, we can observe automatic loading, positive bobbin positioning, and automatic delivery of completed bobbins—all on one machine.

Waste Handling


Pipe from Dunn Plant
Pipe from Clara Plant
Pipe from Armstrong Plant
Pipe valves
1. Waste is carried by vacuum through pipes from mills to waste-receiving tanks
Upper floor
Chute to carousel
2. Collected waste is swept with broom from tank through chute to proper carousel bin. Bin can be brought under chute by revolving action of carousel
Waste-receiving tanks
Pushbutton to turn carousel
Chute to carousel
Baling presses
To storage area
3. Waste from full bin is swept from carousel to baling press
Bin is brought close to bale press by revolving action of carousel
4. Bale is carried to adjacent area for storage
Lower floor
(For illustrative purposes, actual position of mills has been distorted; and third receiving tank, which acts as air filter, has been omitted from this diagrammatic drawing.)

WASTE CAROUSEL takes advantage of a difference in levels, uses the gravity principle, and saves space because of revolving bins into which various wastes may be segregated.

Colors *custom-made* for nylon

NEW DU PONT NEUTRACYL DYES are neutral dyeing colors—designed specifically to produce the *highest possible light fastness on nylon.*

They can be applied in the same short time cycle as acid colors . . . but have decidedly superior light and wet fastness on filament nylon. For example, Neutracyl Blue G is especially recommended for dyeing nylon staple. The dyed staple can be converted into those fabrics which require superior light fastness—such as upholstery materials, automotive top materials, government fabrics and outer wear.

These NEUTRACYL dyes are suitable for dyeing wool, giving fastness properties similar to nylon.

For information on NEUTRACYL dyes . . . or for help on any coloring problem . . . consult our Technical Staff. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98, Delaware.

Du Pont Dyestuffs

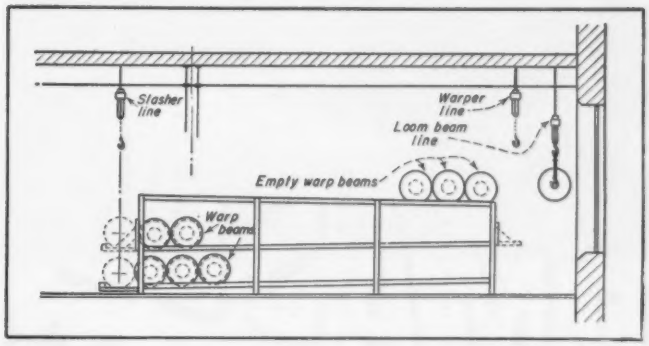
DU PONT

REG. U. S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*

ASME Analyzes Mill Modernization

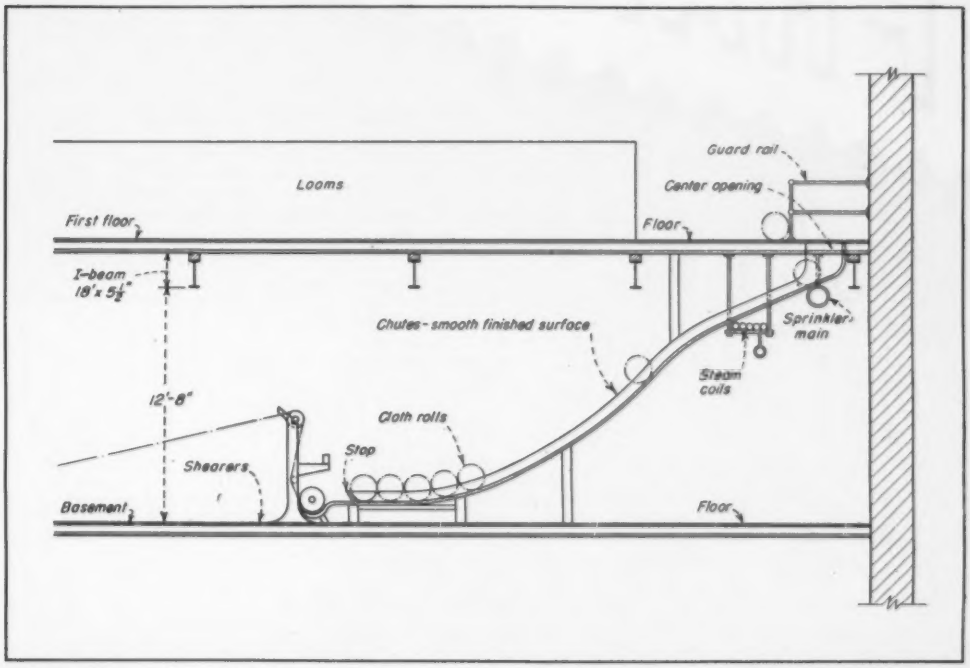
Warping & Slashing



Warping & Slashing.
► In the slasher room, the problem of better positioning has been of particular importance because the units to be positioned are extremely heavy and bulky. Any improvement here should involve mechanization and is likely to bring about relief to operators who would not be required to handle those items manually.

***HANDLING AND POSITIONING** of section beams by this arrangement does not require any motor power but uses gravity only. The full beams roll automatically to the next process, and empty beams return in the opposite direction in the same manner.*

Weaving and Cloth Room



***ROLLS OF CLOTH** are dropped through openings in the weave-room floor onto a chute. The chute guides rolls directly to the back of the shear where they are dropped into the creeling position of the machines without further handling. This chute was installed by Werner Textile Consultants at Dominion Textile Co., Sherbrook (Can.) branch.*

Weaving and Cloth Room.
► When it comes to taking gray cloth from the loom, we cannot ignore the fact that the worker has to be practically an acrobat in order to perform his job. It is common practice for a cloth man to bend down, kneel, or even lie on the floor to do this job. We must apply ourselves to devise new methods and mechanical equipment, which would ease the physical strain required at present and improve the worker's efficiency. Work along these lines is underway, which has the added objective of improving the cloth quality by preventing damage to it.

Inclined tables combined with chutes can improve present cloth-handling conditions.

► Another piece of equipment for the cloth room and the finishing department has been engineered by the Mount Hope Machinery Co. Cloth is rolled from a truck onto the lifting pan, is mechanically raised into the proper position, and the lifting pan is then lowered leaving the roll ready to be used. Manual lifting of heavy cloth rolls is eliminated.

PRECISION PRINTING
with COLOR by
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Through the modern methods of scientific precision printing, Pharmasol Bordeaux BN insures perfect color reproduction for the rich wine shades on cotton, linen and viscose rayon.
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Rayon FABRIC STRENGTH Depends on "Variables"

▶ *Strength-increasing factors*

- *Dimensional changes*
- *Sizings and finishes*
- *"Packing" considerations*

▶ *Strength-reducing factors*

- *Processing damages*
- *Warp-length variations*
- *Binder distribution*
- *Varied types of yarns*
- *Dyes and finishes*
- *Crimp*

By *RENE BOUVET*
Textile Research Dept., American Viscose Corp.

LITTLE KNOWN FACTORS influencing rayon-fabric strength can be conveniently grouped under the heading of "variables." They are many in number. A few of these variables influence strength favorably, but the great majority of them work adversely. [See TW, Oct. '50, p. 131 for a discussion of the more obvious and therefore better known strength factors]. Favorable factors include the following phenomena.

DIMENSIONAL CHANGES. By the term "dimensional changes" is meant the physical shrinking that takes place in the fabric construction as the cloth passes from the loom to the gray room and then to the finished state. To our knowledge, there is no fabric whose finished width remains as wide as the loom width. A certain shrinkage is to be expected, bringing in its wake an increase in sley, or number of warp ends per inch.

For a previous consideration of the more obvious factors affecting rayon fabric strength, see TW, Oct., '50, p. 131.

Plain taffetas shrink 5%. Crepe fabrics shrink as much as 25%. These physical changes mean that the dyecloth warp sley has become commensurately denser and that the warp tensile strength has increased as shrinkage occurred.

Shrinkage in width does not take place uniformly across the fabric. Especially in crepes, it will be found that shrinkage is more pronounced near the selvage than in the center.

When fabrics are properly handled after weaving, a similar contraction takes place lengthwise. The fabric loses some of its length during dyeing and finishing, and thereby picks are increased commensurately. A fair commercial range of lengthwise shrinkage probably runs from 4% for flat goods up to 18 and 20% for highly creped articles.

Summing up, we can say that dimensional changes result in increases in ends and picks per inch. They stem from the tendency of fabric to contract when manufacturing tensions cease and to shrink further when the fabric goes through a wet process.

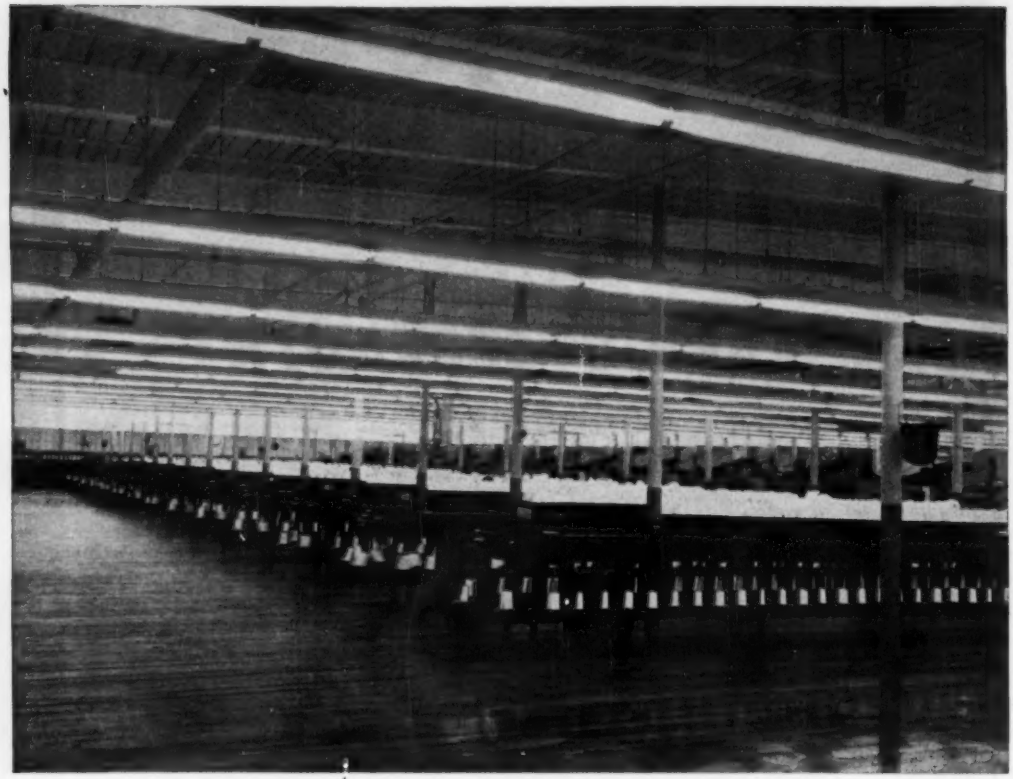
SIZINGS AND FINISHES. Ingredients having cohesive properties, such as starches and gelatins, as well as other finishes, raise the rayon-fabric strength somewhat, principally in spun-yarn cloths. However, no large gain is to be expected from such sizings and finishes. Generally such a gain is achieved at the expense of some other property, such as loss in softness, wearability, etc.

PACKING FACTOR. A change in warp count affects the tensile strength of a continuous-filament fabric in direct relation to the number of ends added or taken away. The same rule does not hold true for spun fabrics. Better spun yarns reflect about 80% of their fiber strength, with the balance being lost either through slippage or twisting damage. Hence, any means for helping check fiber slippage increases yarn strength, provided it does not injure the fiber in some other way. Such means are afforded either by some crimps as introduced by the weave or by an adequate increase in warp sley or in pick density.

If a spun-rayon fabric made with 100 ends should break at 100 lb., its tensile strength might well be raised to 125 lb. upon an increase of sley

ABBOTT MACHINE COMPANY

INSTALLATION OF AUTOMATIC RAYON QUILLERS



Twelve Abbott Automatic Rayon Quillers with Pinboard Attachments are run by only *six* operators in the above mill installation. Such an efficient installation achieves lowest operating cost with maximum production per operator.

Empty loom bobbins are automatically loaded and filled. Full loom bobbins are automatically doffed onto pinboards, which permits one operator to handle up to 240 spindles.

Abbott Quillers offer the lowest investment cost in the automatic winding field.

One of our representatives will be glad to study your filling winding requirements and submit a proposal for your consideration.

ABBOTT MACHINE CO., INC.

FACTORY AND MAIN OFFICE:
WILTON, NEW HAMPSHIRE

SOUTHERN OFFICE: GREENVILLE, SOUTH CAROLINA

to 120 ends. In such a case, the five extra-pounds strength must be gained through increased fiber cohesion as a result of a greater packing factor.

The packing factor that thus raises the coefficient of fiber friction ceases to be beneficial from the moment it is in balance with the inherent fiber strength.

The better fiber cohesion brought about by the packing factor is not merely achieved through a higher warp sley but also with a great number of picks. For all spun-fabric constructions, there is a definite area wherein optimum strength can be achieved.

An experiment has been made in which spun construction made of zero-twist yarns reached a fabric strength equal to or even better than those made of conventional yarns. And so it is beyond doubt that the packing factor plays a very important part in the strength field.

Some of the thoughts perhaps worthwhile to commit to memory are: (1) The highest tensile strength of a spun-rayon cloth is reached when the pressure existing among its fibers is equal to the tensile strength of the fiber. To go beyond such a pressure is not beneficial. (2) The less effective the fiber cohesion and the influence of the twist, the better the chance for the packing factor to improve the cloth strength.

There are at least six little-known factors that affect rayon-fabric strength adversely. One of them might be called general processing damage. The damage is cumulative as the fiber is processed.

PROCESSING DAMAGES. Though we praise ourselves on being modern, we have not yet succeeded in enhancing the physical properties of textile fibers as we process them. In fact, the chances are that any contact, unavoidable in the course of manufacturing, injures rather than improves the fibers. Hence, the inescapable conclusion that reduction of handling and greater gentleness in processing are desirable at all times.

The places where fibers can be damaged in the course of processing are found in all operations, starting with spinning, then spooling, warping, slashing, weaving, cloth inspection, dyeing, and finishing.

It is well-known that a certain amount of fiber breakdown often results from excessive carding, also from poor settings. Many are the opportunities to do damage through contact with faulty guides in spooling and coning, excessive heat in slashing, sharp loom reeds and heddles, rough shuttles, unflanneled shuttle races, improper take-up roll coverings, and so on. These are but a few of the types of damage which may abrade, injure, and sometimes nearly sever rayon ends during processing.

As a whole, it is desirable to deduct from 10 to 15% from the original yarn strength to cover the loss that inevitably accrues from the foregoing conditions. To expect complete freedom from processing damage still belongs to the realm of wishful thinking, not of reality.

WARP-LENGTH VARIATION. Regardless of the warping system practiced, whether silk or cotton, it is incredibly easy to produce warps of which certain ends are longer than others. When such a condition exists, it cannot be cured.

Variations in initial yarn length are final, and harm the fabric to the point that upon testing it, or upon stretching it to the breaking point, some ends will be ruptured sooner than others. Co-operation is thus lost in the total strength effort.

Initial variations in yarn length are often traceable to faulty band setting, ridgy beams, or poor beam formation. They are to be expected when yarns of different diameters are warped together. Such difference in diameter may well exist between yarns numbered on the same system and of the same count. For instance, a 40/2 cotton has a coarser diameter than a 40/2 spun rayon; hence no perfect warp can be expected if they are run jointly.

BINDER DISTRIBUTION. A weave with evenly distributed binders, as well as an equal number of binders on each end, is essential to assure uniform take-up of all warp ends.

It is obvious that ends binding more often will be absorbed faster than the others and will eventually become so tight as to carry all the strain. What

(Continued on page 254)

Filling Breaks

Fabric Construction W F	Standard Strip Method	
	3/3 Basket Weave	Plain Weave
80 X 80	17	21
80 X 90	20	25
80 X 100	23	29
80 X 110	27	34
80 X 120	29	38

***GRAY STRENGTH** of spun-rayon fabrics is improved in both warp and filling (when additional ends or picks are added) at a rate that is more than arithmetic. Thus in an 80-sley fabric, increasing the number of 80s cotton-count picks from 80 to 120 raises the above basket weave filling strength 70% (instead of 50%), and plain-weave strength by 81%. The percent grain-per-denier increase over arithmetic "normal" is the packing factor.*

"Packing Factor" in Action

QUESTION: How can I figure the strongest fabric construction for the yarns I desire to use, employing the packing-factor principles?

PROCEDURE: Assume you wish to use 80s yarn in both warp and filling.

1. 80s yarn = 67,200 yd. per lb.
2. $\sqrt{67,200} = 258$
3. Cotton adjustment factor means that 258 X 0.93 = 240
4. This figuring means that 240 ends of 80s yarn alongside of each other will solidly block one inch.
5. Reduction possible, due to weave, equals one-half of the original mass

$$\frac{240}{2} = 120$$

6. 120 ends per inch is the density assuring the most efficient packing factor, hence the best fiber strength.

don't let mold munch on man hours!

Aspergillus magnified 78X.

Are you using Dowicides to guard against lost man hours, delayed orders and wasted materials?

For many years, Dowicides have been used by textile manufacturers to preserve the desirable properties of starch as a sizing material, and as a control against bacteria which may degrade starch solutions and make necessary the production of replacement batches.

Mold growth on gray goods has often meant loss through discoloration. Dowicides may be incorporated in size solutions to give warp yarn and gray goods mold resistance, saving many valuable yards and making additional processing unnecessary. If you are not already profiting from the added protection which Dowicides give, investigate this accepted means of bringing microbial control into your plant today. Dow maintains complete laboratory facilities to help you solve your problems. Contact your nearest sales office or write direct to Midland for additional information on Dowicides.

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CHEMICALS

INDISPENSABLE TO INDUSTRY AND AGRICULTURE

YARN DEFECTS were discussed by a panel at the meeting of the South Carolina Div. Members of the panel, which was led by C. A. Gibson, Pres., Calhoun Mills and F. W. Poe Mfg. Co., included (left to right around the table): J. B. Templeton, Supt., Poinsett Mill, The Abney Mills, Greenville, S. C.; W. F. Howard, Supt., Cotton Mills, Pacific Mills, Lyman, S. C.; E. L. Cantrell, Supt., Inman Mills, Inman, S. C.; N. G. Hardie, Plant Mgr., Chicopee Mfg. Corp., Walhalla, S. C.; J. L. Delany, Supt., Joanna Cotton Mills Co, Joanna, S. C.; and F. M. Burton, Supt., Pendleton Mfg. Co., Pendleton, S. C. Other prominent mill men sat in on the discussions.

STA Meetings Cover CARDING, SPINNING and WEAVING

In the Fall STA divisional meetings, subjects discussed included—

- ***Carding, spinning, and weaving***
- ***Waste and quality control***
- ***Automatic cleaning and maintenance***

This report includes these subjects under the headings of Carding and Spinning and of Weaving

Carding and Spinning

The discussions on carding and spinning involved processing, cleaning, quality control, waste control, defects, and new items.

The Saco-Lowell pneumatic pressure system for winding of picker laps was said to make a more uniform lap. Pressure of 75 to 80 lb. was suggested.

Ball-bearing comb boxes and ball-bearing lickerin bearings were preferred by those mills which have them. They require less maintenance and give very satisfactory service.

Neps can be reduced with a lickerin speed of 800 rpm., according to Prof. J. F. Bogdan, director of research, School of Textiles, N. C. State College.

Any rolling action caused by ginning, beating, wide card settings, loaded card surfaces, and dull wire results in neps; and neps can be reduced considerably by using a minimum of opening actions, close card settings, high lickerin speed, and frequent stripping and grinding.

The new Whitin pin and cradle was described by several mill men as giving better yarn strength and more even yarn with high drafts than their old cradles.

In one mill, the increase in the break factor was from 11 to 13.8%; and in another, the increase was 4.8%. Generally, it was felt that the new pins and cradles are most effective on 20s or finer yarns. Drafts as high as 32 have been used, and in one case the strength was the same as that obtained with a draft of 21 on the old units.

The 4-mm. cradle was preferred for the finer yarns with double roving, and the 5-mm. cradle appeared to do the best work on coarse yarns with coarse single roving. In some cases, roll settings had to be increased with the new cradle when heavier roving was used.

In a waste-control discussion, one mill man gave these percentages of waste which are removed in his opening line. He uses middling gray cotton, 1⅛ in.

Blending feeders, 0.26% fine waste
No. 7 air filter, 0.20% fine waste
No. 6 air filter, 0.33% fine waste
Vertical opener, 0.50% motes and dirt
First lattice opener, 0.62% motes and dirt
Second lattice opener, 0.50% motes, dirt, and leaf

The total waste removed in this opening line is 2.16%.

Another mill using bright strict-low middling cotton removes a total of 2.34% in opening, of which 0.34% is removed by a Superior cleaner.

Picker-waste percentages were reported by one mill as 0.55%, another as 1%, and another as 1.2%. The general thought was that on the average about 3 to 3.5% waste is removed up through picking. The waste removed will vary considerably with the grade of cotton used and the quality of yarn to be spun.

Card-waste percentage for middling gray cotton, 1⅛ in. were found by one mill to be 5.65%. This percentage included:

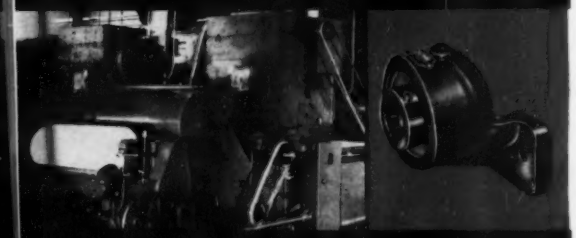
Cylinder strippings, 0.82%

(Continued on page 151)

Bottom Apron Unit - Bale Breaker

Beater Box Unit

Lifting Apron Unit



Picker Fan Box Unit

Apron Adjusting Bracket

TURNING POINTS to lower costs

in Opening, Cleaning and Picking

Right from the start of your mill operations, Fafnir ready-to-mount textile ball bearing units can save you money. For example, on Vertical Openers where bearing loads are high, Fafnir ball bearings ease the load, lighten wear, increase belt life, remove the fire hazard of dripping oil and maintain the general overall efficiency of the machine.

You can get Fafnir Textile Units in such a wide variety of types that no vital turning point need be without the benefits of anti-friction bearings. Because these units are designed for specific points on specific machines . . . bale breakers, hoppers, blending feeders, pickers, etc., . . . you'll find their installation easy and fast. What's more, practically all units have the Fafnir Wide Inner Ring Ball Bearing with self-locking collar, easiest of all to install.

Get acquainted with the complete Fafnir Textile Line and its possibilities for lowering your costs of production. Send for the latest catalog on Textile Units. The Fafnir Bearing Company, New Britain, Conn.

Other FAFNIR UNITS for Opening Cleaning Picking

- LAK Type Pillow Block
- Frame and Take-Up Unit
- Lifting Apron Unit — Saco-Lowell F5 Feeder
- Idler Cone Unit — for P & D Evener
- Adjustable Lifting Apron Unit — No. 4 Saco-Lowell Bale Breaker
- Evener Cone Unit — Saco-Lowell Picker
- Lifting Apron — Saco-Lowell F5 Feeder
- Slat Conveyor Roll Unit — Saco-Lowell Opening Room Equipment
- Side Shaft — Saco-Lowell Picker
- Apron Adjusting Bracket — Saco-Lowell Lattice Conveyor
- Apron Adjusting Bracket — Saco-Lowell Blending Reserve
- Breaker Shaft Unit — No. 4 Saco-Lowell Bale Breaker
- P & D Evener Unit — Saco-Lowell Picker
- Box-worm Gear — Top Cone Shaft P & D Evener
- Unit-Doffer Beater for Kitson Hopper
- Calender Rack Assembly Units

FAFNIR

BALL BEARINGS

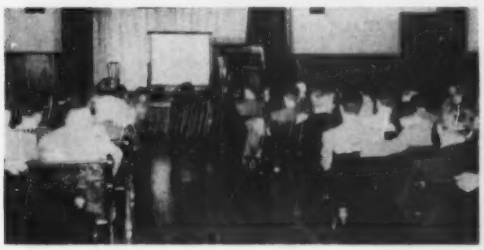
MOST COMPLETE LINE IN AMERICA

NEW CHAIRMAN of the weaving section, S. C. Div., E. L. Cantrell (right), Supt., Inman Mills, Inman, S. C., is congratulated on his election by J. C. Godfrey (left), Supt., Calhoun Mills, Calhoun Falls, S. C.

OVER 100 MEN attended the meeting of the S. C. Div., which was held at Clemson College, Clemson, S. C., on Nov. 4, 1950. The principal subject of the meeting was yarn defects.

THE EASTERN CAROLINA DIV. meeting, Durham, N. C., was attended by approximately 100 men. The carding and spinning discussion, pictured above, was led by Virgil E. McDowell, Asst. Supt., Rosemary Mfg. Co., Roanoke Rapids, N. C.

LIVELY DISCUSSION made the Eastern Carolina Div. meeting an outstanding success. Frank Williams, Jr., Asst. Supt., Patterson Mills Co., Roanoke Rapids, N. C., is shown contributing to the discussion of yarn defects.



QUALITY CONTROL was a feature of the Piedmont Div. meeting. Prof. Dame S. Hamby, School of Textiles, N. C. State College, is shown as he described various testing procedures used in controlling quality of yarns.

THE NEW CHAIRMAN of the Piedmont Div., Marshal H. Rhyne (right), Gen. Supt., Chronicle Mills, Belmont, N. C., is shown with A. R. Marley (left) Supt., Mill No. 2, Erwin Mills, Inc., Erwin, N. C., who is president of the STA.

Flat strippings, 3.34%
Motes and fly, 1.27%
Scavenger waste, 0.05%
Invisible waste, 1.36%

At this point, the total waste in this mill amounted to about 10%.

Flat speed was a subject that raised some questions. A research man said that the same amount of waste would be removed with a flat speed of 9 in. per min. as with a speed of 3.5 in. per min.

Some of the mills had done a little experimental work with flat speeds, and they generally agreed that more dirt, etc., is taken out with slower flat speeds. Results on fast flat speeds differed. One plant got about the same percentage strips with fast speeds, and another got lighter strips.

Waste-control records are maintained by most mills, but few have a formal program. Several mills have set standards for the amount of waste to be removed by each machine and make periodic checks to see if it is

(*Continued* on page 318)

YOU CAN BE **SURE**.. IF IT'S

Westinghouse

REPORT:

"According to a study of weave room fires by the Associated Factory Mutual Fire Insurance Companies for the period from 1935 to 1945, 38.8 percent of the electrical fires in weave rooms were caused by loom motor starters."

HERE'S YOUR ANSWER, TEXTILE INDUSTRY!

Westinghouse now offers a new *Gasketed* Lint-Tight Loom Motor Starter . . . designed specifically to reduce weave room fire hazards. And it's the first starter of its kind on the market.

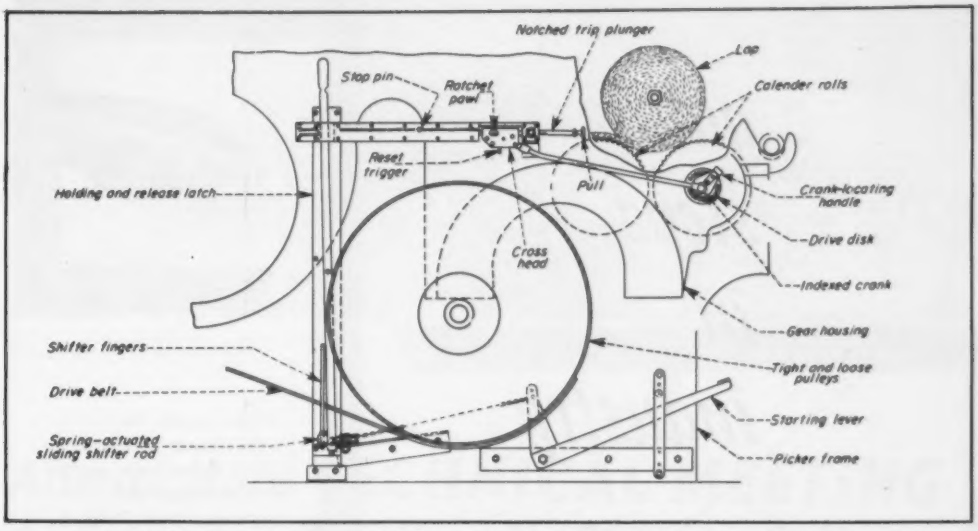
Explosion and fire caused by lint and dust reaching starter contacts can now be a thing of the past. The new Westinghouse *Gasketed,* Lint-Tight Loom Motor Starter keeps lint and dust out because the enclosure is completely sealed. A special Neoprene gasket forms a positive, continuous seal between the box and cover. Pressure from the cover clamp makes sure every crevice is filled with the pliable Neoprene gasket . . . positive assurance that combustible elements cannot enter the enclosure. Thus, this cause of fire is prevented *before it* can happen.

What's more, you get these exclusive features, too! Positive Disc-Type, Bimetallic Overload Protection . . . "De-ion" Arc Quenchers . . . Quick-Make, Quick-Break rotary handle mechanism that cannot be kicked or bumped "ON" or "OFF" inadvertently. Your nearby Westinghouse representative can give you all the facts. Ask him for a copy of B-5256, or write Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pennsylvania. J-30038

Westinghouse

LINT-TIGHT

LOOM MOTOR STARTERS



NO SPECIAL PARTS or castings are required for this precision picker knock-off which is made from standard bar stock.

Precision Picker KNOCK-OFF Developed at SRRL

Faced with the problem of making laps of identical lengths, SRRL developed a knock-off which can be applied to existing pickers without difficulty. Here's an idea for you if you're interested in laps of exactly the same length.

By GEORGE A. PETTIT
Southern Regional Research Laboratory, New Orleans, La.

A NEW PICKER KNOCK-OFF for producing successive laps of identical yardage has been developed by engineers of the Cotton Mechanical Processing Div. of Southern Regional Research Laboratory.* The work was done as part of the laboratory cotton-utilization program.

Experience with the existing picker knock-off motion, which is controlled by a modified planetary-gearing arrangement, showed that it would not produce the exact yardage required for the program, and that it was time-consuming to adjust.

The laboratory engineers devised, without disturbing any part of the picker, a simple mechanism to attach to the outside of the gear housing on the left side of the picker. The mechanism is instantly adjustable to give laps of any length from 4 to 40 yd. in fractional increments of 2¼ in. The accompanying sketch illustrates the principles of the design and the manner of its attachment to a standard picker.

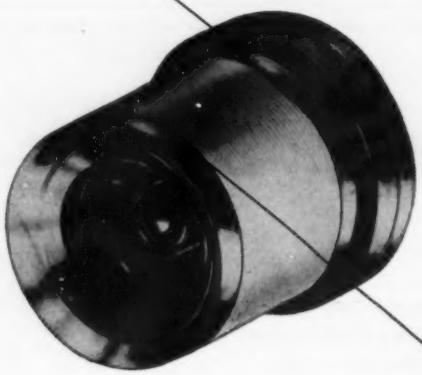
The device is constructed of standard steel bar stock and requires no special parts or castings. The yardage metering is based on the circumference of the lap calender roll. Attached to the calender-roll shaft is a driving disk provided with equally spaced indexing holes. A crank is mounted on this disk that can be rotated to any position for setting up the 2¼-in. increments of lap length. A tripping or releasing plunger is manually adjusted to meter the required yardages by locating a stop pin in the proper hole. Rotation of the calender roll actuates the plunger which releases a catch and shifts the picker belt when the cycle of yardage is completed.

To reset the knockoff, the ratchet pawl is released by holding the reset trigger, and the plunger is pulled back until it engages the stop pin. To start the picker, a spring-actuated sliding shifter rod is moved to the "On" position and latched by pressing a foot-operated starting lever located at the base of the machine.

This precision knock-off motion has been in operation for more than a year and has proved a worth-while development for research purposes. It may be of interest to other research organizations, and possibly to textile mills faced with the problem of producing laps of specified lengths. Full engineering details of the unit are available from the Southern Regional Research Laboratory.

*One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture.

giant steps in industry



Above you see the revolutionary jet engine, which makes flight possible at great height and incredible speed. Think of it—air travel faster than the speed of sound. A stupendous scientific feat considered impossible a decade or so ago!

At your left you see an equally remarkable mechanism... Industrial Rayon Corporation's "thread advancing reel," an important element of the renowned Continuous Spinning Process... herald of a new day in the rayon industry.

On this reel I R C produces a virtually flawless yarn in miraculously little time. Yarn so uniform it set a new standard of quality for mills, cutters, converters throughout the entire world. A process so valuable it has been adopted by producers in Great Britain, France, Switzerland and other foremost countries. A process so far ahead of its time, that today, 12 years after its introduction, it still remains unsurpassed.

I R C is proud to have created this spectacular "thread advancing reel." If and when another rayon miracle appears... chances are, I R C will have a hand in it!

INDUSTRIAL RAYON CORPORATION

Cleveland, Ohio - Sales Office: 500 Fifth Avenue, New York 18, N. Y.

OVER 175 FORMER STUDENTS of the School of Textiles, N. C. State College attended the conclave. By unanimous vote of those present the conclave will be an annual affair.

Alumni Hold TECHNICAL MEETING At School of Textiles, N. C. State College

The first annual alumni conclave featured talks on school activities and these technical subjects—control and reduction of neps, new developments in cotton, Pacific converter, fiber blending, and comparative dyeing characteristics of irrigated and rain-grown cotton. Here are some of the highlights—

- ***Research shows fewest neps with 800-rpm. lickerin speed.***
- ***New triple-hybrid cottons have fiber strength up to 150,000 psi.***
- ***Pacific converter does excellent job on production basis.***
- ***New systems designed specifically for blending give good results.***

By W. A. THOMASON, JR., *Southern Editor, TEXTILE WORLD*

A NEW SERVICE OF THE School of Textiles, N. C. State College, Raleigh, N. C., was started with the first annual alumni conclave, which was held at the college on November 17 and 18. The conclave was sponsored by the textile school to acquaint former students with research work being done and new methods and processes developed at the college and in industry. This meeting also gave the alumni an opportunity to renew old acquaintances and consult the staff of the school on technical problems in which they had a special interest.

DEAN EMERITUS THOMAS NELSON, center, was given a rising ovation when he was recognized by the chairman of the conclave, Dean Malcolm E. Campbell. Prof. T. R. Hart is standing on Dean Nelson's right.

After the meeting was opened by Dean Malcolm E. Campbell, the group was welcomed by Col. John W. Harrelson, Chancellor, N. C. State College. The alumni were told by Dean Campbell that the present enrollment of the School of Textiles this year was 612 students, of which 57 are from 23 foreign countries, and approximately 370 from North Carolina; and the remainder represent 26 other states. Last year, 249 students were graduated.

The gathering was told that the N. C. Textile Foundation now has funds of $1,200,000. This money is used primarily to supplement salaries of the staff at the School of Textiles.

The technical sessions were highlighted by talks on results of research on nep control and reduction, mill experience with the Pacific converter, fiber blending, and comparative dyeing characteristics of irrigated and rain-grown cotton.

Talks were also given by Prof. C. M. Asbill on the textile instrumentation courses offered at the School of Textiles and by H. Dunlap on placing textile graduates. The program was arranged by Prof. B. L. Whittier.

Here are the highlights of each of the technical talks.

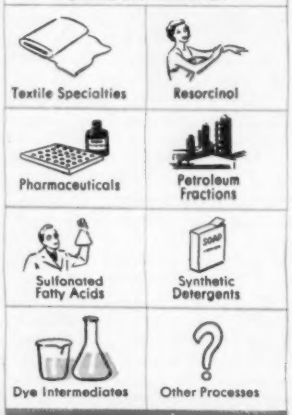
(Continued on page 218)

NEWS NOTE:

Suppliers announce that more sulfur is now being consumed than is presently produced . . . urge conservation and more efficient use of available materials.

So...If You SULFONATE ...Use Sulfan* STABILIZED SULFURIC ANHYDRIDE

Investigate SULFAN if you use sulfonations for:



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IN SULFONATIONS, General Chemical SULFAN furnishes more than 99% available SO_3 in easy-to-handle liquid form. Every pound of SULFAN that goes into the process can be utilized for sulfonating! Spent acid—with its attendant sulfur losses and disposal problem—is eliminated.

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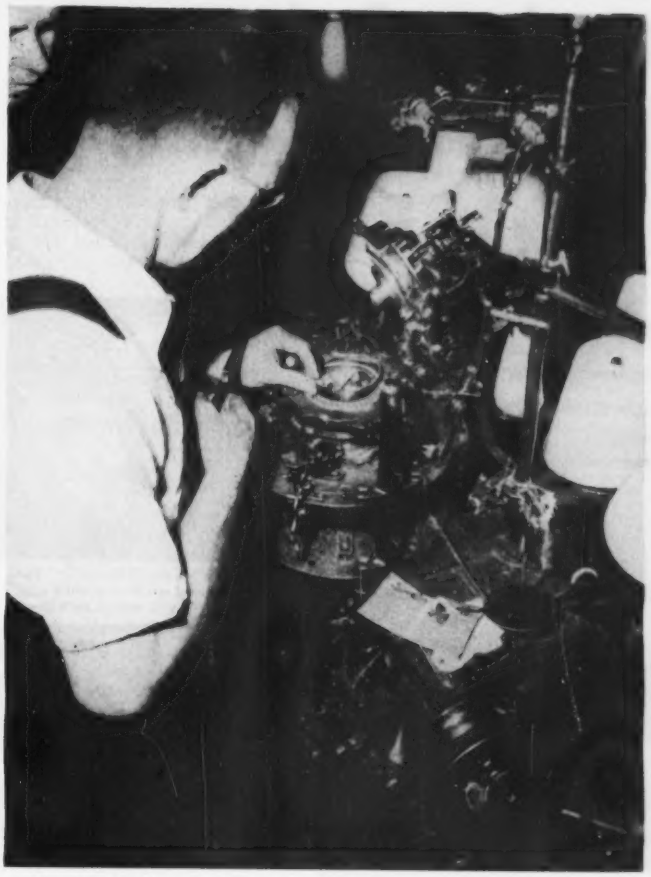
*"SULFAN" is General Chemical's registered trade-mark for liquid sulfur trioxide



KNITTING NEEDLES are aligned with their outer sides as near the throat plate as possible.

Knitter-Fixer Team Sparks HALF-HOSE Program

Knitter and fixer share responsibility at Villa Rica Mills. Inspection and maintenance are keys to quality and production.

By E. DALTON WHITE
McGraw-Hill Atlanta Bureau

A GOOD PROGRAM of machine adjustment and maintenance has improved quality and reduced waste to less than 5% in the Hosiery Div. of Villa Rica Mills, Villa Rica, Ga. Key point of the program is a streamlined routine that places responsibility for maintenance on both the knitter and fixer.

The mill produces cotton anklets and plain and fancy half-hose in a variety of styles and patterns. There are 270 knitting machines installed. They include S&W Komets, Keller model D, Scott & Williams K, Banner plain, and Banner nip jack.

With this variety of machines in operation, some system was necessary to maintain full production. What was needed was a system that was simple to execute and a checking procedure that would insure that each machine would receive attention regularly.

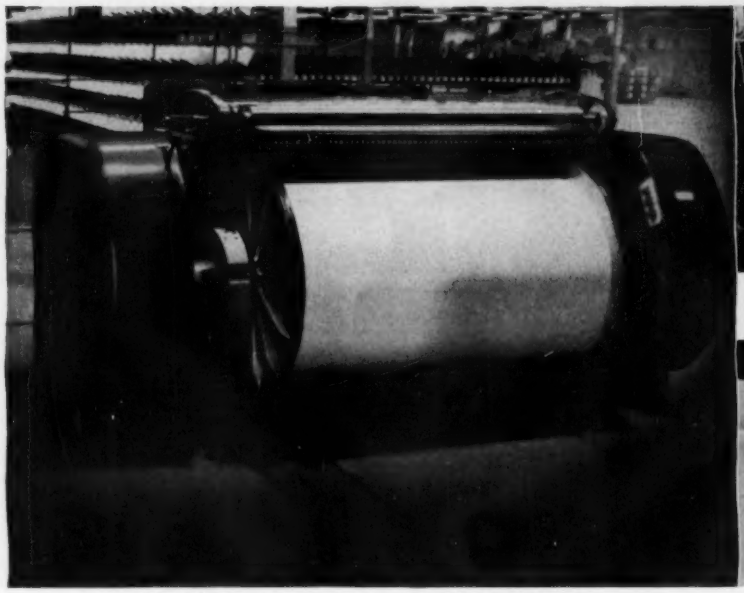
The maintenance procedure was put on a cooperative basis between the fixer and knitter. Emphasis was placed on detecting the first signs of faulty adjustment, wear, or improper knitting. Results have been fewer stops, fewer major adjustments, and less machine down-time for repairs.

FIXER'S DUTIES. The fixer lubricates every machine on his section during each shift. He wipes off lint and excess oil and then blows the machine clean with air. Irregularities caused by lint and oil clogs have been practically eliminated.

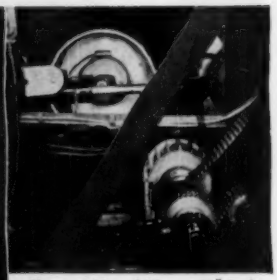
The fixer also sizes each machine twice during the shift and at the same time checks on machine adjustments. With the machines kept in excellent condition and inspection done so often, it requires only a few minutes for the fixer to size and check a machine.

When the fixer is checking a machine, the knitter discusses with him any irregularity she has found in the operation of the machine or in the quality of knitting. It is the knitter's responsibility to keep a close watch on yarn, lint accumulation, excessive oil and grease, tensions, progress of

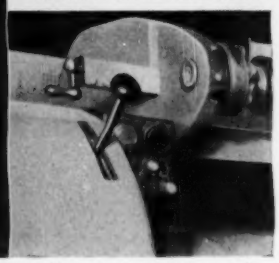
No More Lost Ends... When Warner "ICB" Units Are on the Beam!



Cocker Machine and Foundry Company's new high speed spindle driven beam warper incorporates three Warner ICB Brake Units.



Shows position of Warner 10" Brake on presser roll (upper) and 9 x 2½" Brake on main driving shaft (lower).



Shows position of Warner 5" ICB Brake Unit on crossover roll.

What Cocker says About the WARNER "ICB" Unit

Performance, cost and appearance of our high speed, spindle-driven beam warper were improved by using Warner ICB Brake Units. They provide faster stopping, thus preventing "lost ends" when a break in yarn occurs. With Warner ICB Brakes, machine stops in 1½ yds. at 500 yds. per minute machine speed. This compares with 5 yds. at the same machine speed when solenoid brakes were used. Warner ICB Units are easier to mount, require less space, eliminate noise and require no mechanical adjustments. Warner ICB Brake Power can be varied according to task, eliminating "skidding" of certain machine components. They are less expensive than the solenoid brakes formerly used.

Warner "ICB" Units are electrically-powered, low-wattage clutches and brakes. They can be operated singly or in combination — automatically or by push-button control. Being electric, they give lightning-fast response. Compact and simple, they provide easy installation and long-term dependable operation. They're a new answer to a wide variety of old machine design and operation problems. For further information on how Warner "ICB" Units may help you — write today to the WARNER ELECTRIC BRAKE & CLUTCH CO., Dept. TW, Beloit, Wisconsin.

WARNER
ICB UNIT

Warner ICB Units are manufactured by Warner Electric Brake & Clutch Co.— Pioneers in the field of electric brake and clutch design and application since 1927.

knitting, and the general operation of the machine.

Any irregularities must be promptly reported to the fixer, who must make corrections needed to restore quality production.

Here are some of the things that receive special attention at Villa Rica.

NEEDLES IN GORE. Determining the proper number of needles in the gore has been reduced to a formula. The procedure is to take ⅙ the total number of needles in the cylinder —1/5 of that 1/6 = correct number of needles in the gore.

Example: 180 needles in the cylinder ÷ 6 = 30 — (30 ÷ 5) = 24 needles in the gore.

Proper tension, inspection, and needle adjustment are high on the list of machine-maintenance procedure. Experience has shown that on model-D machines a "burst out," or hole, in the corner of the gore is caused by incorrect timing. Sufficient time should be allowed for the yarn to get under the yarn binders; if not, strain created on the yarn will cause a break.

It also has been found that model-D machines work better if four medium-butt needles are used in each gore. This practice allows the two feed yarns to knit farther in the plain sole, eliminates the yarn lap in the corner of the gore, and relieves excessive tension on the two feed yarns.

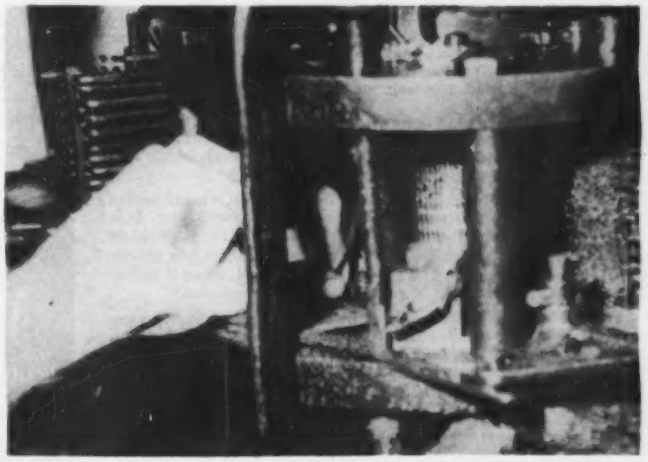
NEEDLE REPLACEMENT. In replacing needles, the new needles are carefully aligned with their outer sides as near the throat plate as possible. Unless this alignment is made, misplates, dropped stitches, and other defects are likely to develop.

Care is observed to maintain a straight hook so that it is in line with the rest of the needles. Sinkers are not allowed to run too deep. Tension is carefully adjusted for the weight and type of yarn being used. Fancy designs are watched for misplates, which indicate a lack of tension on the yarn or needles out of alignment.

Great care is exercised in the installation of jacks. The jack is aligned without tension and is seated so that there is no side tension or rubbing. The steps are broken off smooth and close to the stem so selector will not trip the step and raise the needles, causing a drop stitch or a bad pattern.

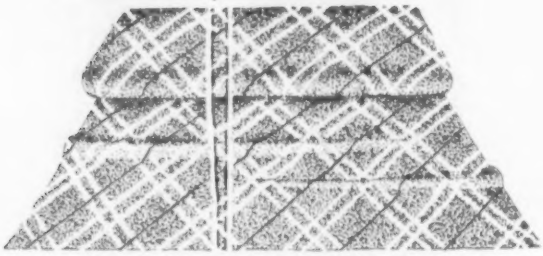
The number of items listed on Villa Rica's checklist for maintenance and adjustment seems large, but their experience has been that less work is required on major adjustments and repair when the little things are corrected as they develop. The end result is fewer defects and corresponding higher quality of knitted product.

FIXER oils, wipes, and blows off each machine on his section during every shift every day.



NEEDLE JACKS are aligned without tension and seated so that they do not rub each other.

from boll



to bolt

From the time cotton arrives as rawstock until it's ready for bolting, textile mills get excellent results with Santomerse No. 1, Monsanto's all-purpose detergent and wetting agent. Santomerse No. 1 is used in kier boiling, desizing, dyeing and in myriad scouring operations for cotton, wool and synthetic fibers.

In hard water, Santomerse No. 1 prevents formation of insoluble curds and film. Thus, it aids in level dyeing and helps colors retain their sparkling brilliance.

Santomerse No. 1 is a powerful detergent . . . a rapid wetter . . . a thorough penetrant . . . a free and easy rinser. It is efficient in hard or soft, hot or cold water . . . in acid or alkaline solutions. Being essentially neutral, it has practically no effect on the pH of solutions and, even if minor changes take place, the pH can be adjusted easily.

For technical counsel on any application of Santomerse No. 1 in the textile industry, or for a free copy of the booklet, "*Santomerse No. 1—The all-purpose wetting agent and detergent*," contact the nearest Monsanto Sales Office or write MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri.

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Santomerse D	

*Reg. U. S. Pat. Off.

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CHEMICALS — PLASTICS

SERVING INDUSTRY . . . WHICH SERVES MANKIND

Exploring

THE TEXTILE COMMUNITY

By MILDRED BARNWELL ANDREWS

NURSERY Can Help Solve Manpower Problem

▶ *You can bring in more women workers by setting up a way to take care of the children while mother works. Here's a description of the nurseries and day schools organized by several mills. . . .*

MILDRED ANDREWS

'Twas just a little, old-fashioned-looking cotton mill in a little town on a branch-line railroad. No big modernization program had changed its outside appearance. The grounds were neat and well kept, the houses in the village were in good repair, but the entire atmosphere of the place was just old-fashioned country-town placidity.

The converted residence, whose sign proclaimed it to be the main office, was old-fashioned too. But it was a pleasant place with its rocking chair for traveling salesmen and potted plants blooming in a sunny window. The executive of this little mill was one of the most human and kindly men I had met in a long time. He had put into practice in his little community the fundamental qualities of what is called "understanding". He was an elderly gentleman who could not quite figure out why this strange woman with a Yankee license plate on her car had come by to see him.

"You sure you don't want to sell me anything?" he asked with an attempt at gruffness.

"No, sir," and I laughed at his expression.

"First time a woman came to this office who didn't want me to take a magazine or something," he said; then added, "What do you want?" His little old fox terrier who had been asleep in a comfortable looking box between the desk and the fireplace where coals glowed in the grate came over and put her paw on the old man's knee as if to ask him in agreement, "What does she want with us?"

Abruptly his gruffness dropped from him. He leaned over and scratched the little dog's ear. "Flora and I are both living on borrowed time" he said. "She's come to work with me every day for nearly 15 years now. It would be hard on either of us if the other were to go first."

A lump came into my throat, but I told him why I was there. "I was driving through your village and noticed the nursery school next to your office; so I turned around and came back to talk to you about it."

Nursery Started During War . . .

"You did? Would you like to see it? We love our children in this village," he said. "Our nursery started during World War II. We are sort of isolated down here you know, and there's no large labor supply. We needed everyone at work to get out our war contracts. But a young mother can't hold a job and look after her babies at the same time. We fixed up one of the village houses, hired a registered nurse and an experienced kindergarten teacher, and a couple of good negro nurse girls.

"We went on the theory that a small charge for such a service is better, psychologically speaking, for the patrons than a free service, so the mothers paid about 25¢ a day to leave their children there. We gave them lunch, and during their rest periods, milk and crackers. Why some of those babies grew so fat and sassy you could spot them anywhere! And they had the time of their lives, the older ones, I mean, when spring came and we put swings and things for them to play with out-of-doors.

"When the war was over, we just kept up the nursery; and the mothers kept up their custom of using it, even when they had given up their jobs to stay at home and housekeep." The old gentleman smiled, got up and walked over to the window. "I guess I liked to watch them, too," he added. "See, the playground is right across the street.

"And you should have seen those women work getting out that war production. We didn't do a lot of flag waving down here," he said, "but our mill showed up just as well in its small way as any of the big ones.

"I'm glad we kept up the nursery," he said. "We'll be needing it again now with the Korean trouble and the new emergency. We'll be running full-time again on war work, I guess. And we'll need every worker we can get."

Nurseries Pay Off Several Ways . . .

Nursery schools, kindergartens, and pre-kindergarten classes are found throughout the textile communities, in the big mill centers and in the little mill villages. It is one of the more recent developments in human relations that pays off in many ways: in peace of mind of the mother who works, and in better health and educational status of the children.

Hanes Knitting Mill at Winston-Salem, N. C., and Consolidated Textiles, Inc. at Lynchburg, Va., both have good day-nursery schools with special emphasis on health, safety, and supervised and planned play.

One of the most worth-while projects which the textile plants of Scotland County, N. C., have is the Waverly Nursery School, which has an average enrollment of approximately 50 children between the ages of three and six. Public-school teachers say that the children who come from the nursery schools are much further advanced than those who do not have this privilege. In this school the employee pays about 25% of the cost of operating the school, which is supported by Waverly Mills, Inc., Scotland Mills, Inc., and Morgan Cotton Mills.

In Shelby, N. C., at the Lily Mills Co., a welfare worker

(*Continued on page 216*)

Every Minute Meant a $1920 saving

Big return for a minute's time . . . but to a leading Philadelphia manufacturer* a 5 minute interview did result in a total saving of $9600.

This manufacturer faced a problem that's common to many plants today. His ten machines have 560 bearings—560 bearings that must be kept lubricated if production is to be kept uniform, rejects few. That lubrication job was taking four man hours every week and, because of human fallibility, there was always the potential danger that one of these many bearings had been overlooked or under lubricated.

An Alemite Lubrication Engineer was called in. He made his presentation in just 5 minutes—5 minutes that saved $9600. He told the manufacturer the facts of installing a modern Alemite Centralized Lubrication System. That system is in the plant today. The result: assurance of continuous, correct lubrication, few rejects and shut downs, and the addition of a whole hour's production time every working day.

Call Your Alemite Lubrication Engineer

No matter what size or type of plant you operate, Alemite can show you dozens of ways to save through the more efficient handling of petroleum products. Call your local Alemite Industrial Distributor now or send for the free booklet "11 Ways to Cut Production Costs." Simply attach the coupon below to your letterhead. Dept. J-21, 1850 Diversey Parkway, Chicago 14, Illinois.

*Name on request.

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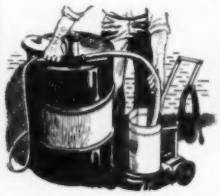
MEANS EVERYTHING FOR LUBRICATION

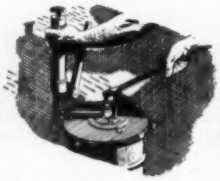
1. Methods 2. Lubricants 3. Equipment

Another Product of Stewart-Warner

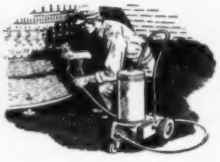
Alemite Cuts Costs 3 Ways



1. In transferring lubricants... cuts man hours 63% for every 100 pounds transferred. No mess, no contamination.



2. In loading grease guns . . . saves 3¾ man hours for every 100 pounds of lubricant loaded into hand guns.



3. In applying lubricants . . . saves up to 23.9 man hours for every 100 pounds of lubricant applied to bearings.

FREE! Valuable booklet—
"11 Ways to Cut Production Cost"
(Simply attach to your letterhead)

ALEMITE, Dept. J-21
1850 Diversey Parkway, Chicago 14, Ill.

We'll include facts on the new Alemite Oil-Mist System, too—(OIL-MIST atomizes oil into mist, circulates it to bearings under pressure. Increases life of bearings as much as 17½ times).

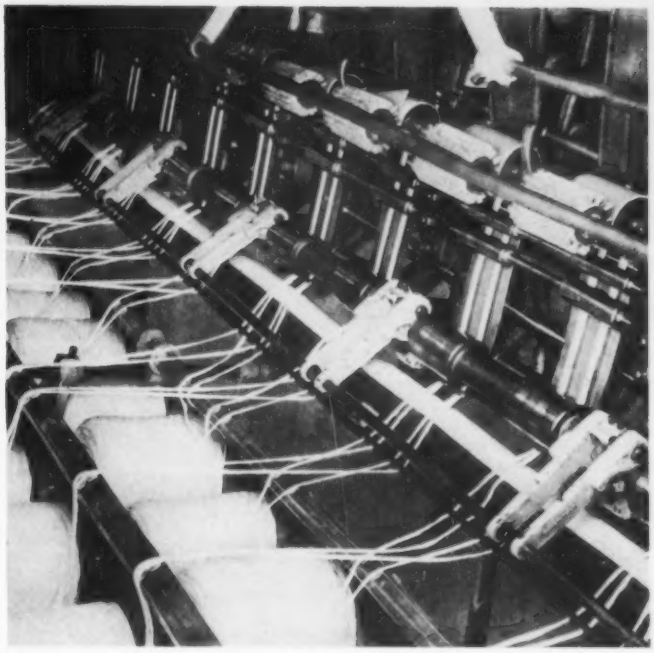
Name .....

Company .....

City ..... State .....

MACHINERY AND SUPPLIES

TEXTILE Equipment NEWS



DRAFTS as high as 10 can be attained on this new Superdraft porcupine drawing frame.

Superdraft Porcupine Drawing Frame Eliminates Worsted Processes

A new Superdraft device for porcupine finishers (patent pending) has been developed by Textile Machines Isotta Fraschini S.P.A., Milano, represented in the U.S. and Canada by Stellite American Co., 60 E. 42nd St., New York 17.

The new device consists of an apron which supports and transports the sliver from the back rollers to the nearest point of the porcupines, thus giving the fibers constant control and preventing them from mix-ups and making the sliver uneven.

The great advantages achieved by this new device which has been under test for about one year at the Filatura Remo Strona Mill in Biella, Italy, can be summed up in the following points:

1. The processing speed on the Superdraft porcupines, even if short-staple wool is being used, can be upped to about 31 yd. per min., against 26 to 27.

2. Sliver breakages are reduced to a minimum, and one operator can easily supervise one 25-head, 50-bobbin machine.

3. The normal draft on porcupines was 4.2 to 4.5. It can be increased to 7 or 8, and longer fibers can be processed with drafts of 9 and 10 without difficulty.

4. The roving produced on the Superdraft porcupine is better in quality, more even, and can be better processed on ring spinning frames.

5. The attachment of the Superdraft device on the finishers is easy and inexpensive.

The importance of this new development is far reaching, the advantages great, and savings considerable.

If, for instance, a mill could formerly prepare with one porcupine passage roving for 40s, the mill can now produce on the Superdraft porcupine a roving which can be spun into 50s to 64s without additional drawing passages. Thus a spinner can eliminate one to two passages of drawing.

In November, 1950, at the factory of the Lanificio Remo Strona in Biella, Italy, 40s metric-count yarn was spun only with five drawing passages, even where short and mixed colored yarns were spun which normally require a high number of doublings.

The sale of this new device started in January this year, and deliveries will be made in approximately two months under present delivery schedules.

Motor-Starter Design Stresses Safety

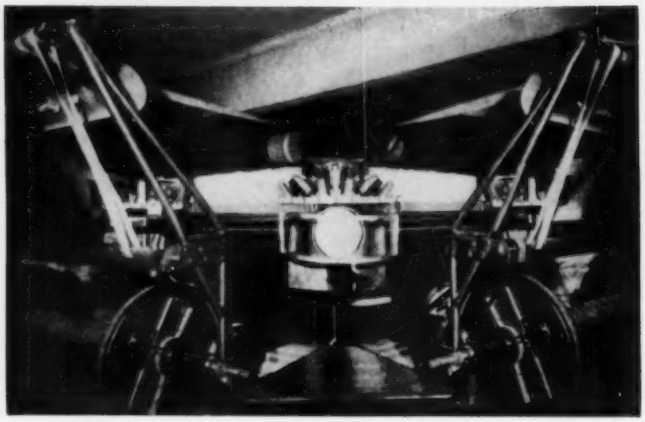
Protection of operating personnel as well as the connected machine is stressed in a new motor starter—the Motor Watchman, Class 10-100-S1—available from Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa.

With ratings up to 600-v., 7½-hp. polyphase, 5-hp. single-phase; or 220-v., 1½-hp. d.c., it starts, stops, and provides overload protection for single-phase, polyphase, and d.c. motors.

The self-indicating handle, interlocked cover that prevents opening unless starter is "off", and safety latch to lock starter "off" during servicing are personnel-protection features.

Positive motor protection is provided by the quick-make, quick-break, over-center toggle mechanism, de-ion arc-quenching, and the bi-metallic disk-type thermal-overload relay.

Straight-through wiring is designed to facilitate installation and servicing. Bonderized enclosures prevent blistering, flaking, and corroding.



***FOUR FABRICS** of identical or varying constructions can be woven at the same time on this new French weaving turbine. Filling is supplied by cones, and shuttles are centrifugally driven through a 1-in. shed.*

Weaving Turbine Produces Four Fabrics at 576-ppm. Total

A new, square-shaped weaving turbine which weaves four fabrics, each up to 141 in. in width, at one time, has been developed by Pierre Vanlaer, Le Cannet Rocheville (A.M.), France. The new machine consists of four straight-sided sections arranged for weaving fabric vertically. The sections are grouped around a central vertical shaft which drives all loom motions. Each section forms a complete weaving unit. The speed of the central shaft is 6 rpm., but 24 picks are inserted during each revolution so that 144 picks are inserted at each weaving section per minute, giving a total of 576 ppm. for the four sections.

The loom can weave fabrics requiring up to 16 harnesses. The shedding operation is actuated by a series of 24 cams arranged at equal intervals around the central driving shaft. As the weaving operation takes place vertically, the harnesses are moved outward by the cams and inward by spiral springs against which they press. Maximum size of the shed is about 1 in.

The loom can weave fabrics with variously colored filling yarns. Filling is supplied from four circular plates at each corner of the turbine. Each plate holds 24 1-lb. cones. These plates rotate slowly in accordance with the filling pattern, and allow the shuttle to pick up the yarn from the appropriate cone. Although the loom is fitted with plates carrying 24 cones, plates holding 48, 96, or 120 cones can be used, to give an almost unlimited range of filling patterns. The small shuttles travel across the shuttle races of the weaving sections, engage the filling yarn at the beginning of each section and are disengaged from them on leaving the section. The shuttles are propelled by centrifugal force exerted by impellers turning at a constant speed of 960 rpm.

Filling inserted is beaten into the cloth by an oscillating reed which enters the shed behind each pick as it is inserted and pushes the yarn upward to the fell of the cloth.

The loom is equipped with 36-in. warp beams, has a positive-type let-off motion, an electro-pneumatic warp-stop motion, and a positive and easily adjustable take-up motion.

The rigid polygonal structure is said to allow the use of lighter frame work. Because of the slow rotation of the central rotor and of the few reciprocating motions of short range, vibration is said to be eliminated. Few machined parts are used, and these said to be strongly constructed and easily manufactured. The loom is run by a 6-hp. motor.

Operational advantages claimed for the loom are:

1. Higher speed with small-range reciprocation.
2. Easy maintenance with less labor.
3. Fewer supply stoppages (cone plate can be changed in 1 min.)
4. Warped beams can be sent to sections from beaming carriages.
5. Pieces woven can be inspected on the looms.
6. Finished fabric can be removed without stopping individual sections.
7. Bobbin winding is eliminated.
8. Various fabric constructions can be woven simultaneously.
9. A large number of filling colors are available for pick-and-pick insertion if desired.
10. Lint and dust are pneumatically removed.
11. Warp strain is reduced by small size of shed.
12. All points on warp easily accessible to weaver.
13. Shuttles prevented from leaving race plates by guiding apparatus.

Winder-Redraw Machine Is Nearly Automatic

***SELF-THREADING TENSION** and full-spool stop motion are features of this new winder-redraw frame.*

The operation of an entirely new type of winder-redraw machine developed by Sipp-Eastwood Corp., Paterson, N. J., is said to be as close to being completely automatic as is physically possible. It has a self-threading tension, self-opening spindleless attachment, and full-spool stop motion.

The washer-type self-threading tension is fastened to the traverse rail and eliminates all threading operations. Gate-type tensions are available with self-threading AlSiMag guides for nylon.

The full stop motion prevents the overrunning of full bobbins.

Drive and traverse mechanism are enclosed in one unit and are lubricated by a circulating oil bath.

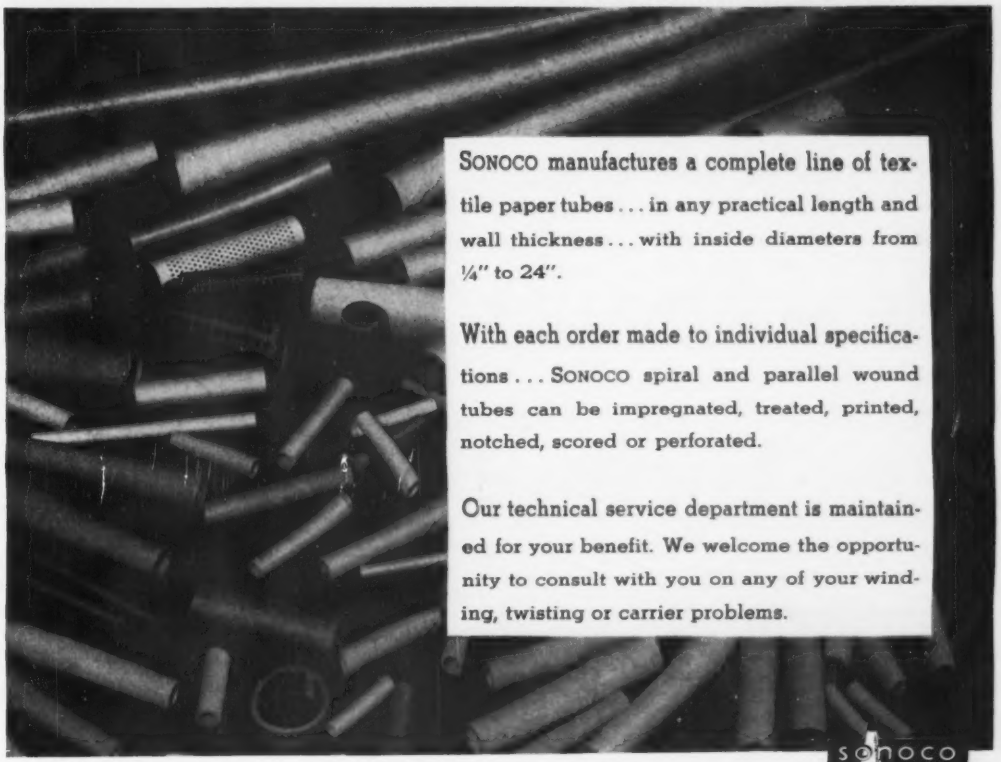
Traverse adjustment is independent on each side of the machine and can be adjusted from 3½ to 7 in. traverse without changing cam.

Speed changes, winds per stroke, and changes for S or Z twist are easily made.

The machine is available with either single- or double-drive, self-opening spindle brackets. A tachometer is also supplied for easy reading of speeds.

SONOCO TEXTILE TUBES

SERVING THE TEXTILE INDUSTRY SINCE 1899



SONOCO manufactures a complete line of textile paper tubes . . . in any practical length and wall thickness . . . with inside diameters from ¼" to 24".

With each order made to individual specifications . . . SONOCO spiral and parallel wound tubes can be impregnated, treated, printed, notched, scored or perforated.

Our technical service department is maintained for your benefit. We welcome the opportunity to consult with you on any of your winding, twisting or carrier problems.

Knitting Arts Exhibition
Atlantic City, N. J.
April 30-May 4, 1951
Booth No. 373-374

SONOCO PRODUCTS COMPANY

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DEPENDABLE SOURCE OF SUPPLY

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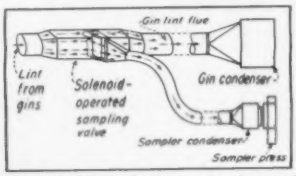
Automatic Machine Makes Cotton Samples at the Gin

***DIVERTED COTTON** is gathered by a sample condenser and pressed into a sample for the bale.*



***SMALL SAMPLES** of cotton going into each bale during ginning are diverted by a sampling valve.*

A mechanical cotton sampler that automatically collects lint during ginning and packages a cross section of the bale into a true sample has been developed by the U. S. Dept. of Agriculture, at the Production & Marketing Administration Laboratory, Stoneville, Miss.

The sampler diverts small amounts of cotton flowing through the gin lint flue at six periodic intervals during the ginning of a bale. This cross section of the bale contents is pressed into an actual sample which carries the same identification as the bale from which it was taken. The device is entirely automatic and resets itself to repeat the process for each bale ginned.

The uniform size and preparation of samples taken by the new machine are favorable to accurate classification. The sample is long enough and contains enough cotton to allow it to be divided into duplicate samples. This method eliminates or reduces the need for a later cutting of samples. One sampler has been installed in a New Mexico gin where samples are being used for classification and marketing.

The kind of samples collected by the new machine are valuable in detecting the presence of mixed qualities in a bale. Spinners, especially, should derive immediate benefit from use of such samples by being able to evaluate the actual contents of a bale prior to the opening of the bale at the mill. Through use of such samples, mills could select bales with contents of uniform quality when such uniformity is required.

Asbestos Spray Solves Moisture-Condensation Problem

Sprayed "Limpet" asbestos, a British development consisting of a specially-treated asbestos fiber sprayed onto walls and ceilings, is said to be solving the problem of condensation of moisture on ceilings and walls in British and other European mills. The asbestos spray was developed by Turner Asbestos Cement Co. Ltd. of Manchester, England, and is distributed in the U. S. by Keasbey & Mattison Co., Ambler, Pa.

The asbestos spray can absorb several times its own weight of moisture. For normal cases, a ¼-in. coating applied to ceilings and walls will prevent dripping of water condensate from humidifying systems.

For application, a slurry is made of the asbestos fiber, and is blown onto surfaces from a "gun." The mixture will remain plastic for up to 2 hr., during which time the surface can be flattened or shaped as required. The coating sets completely in about 8 hr. The asbestos coating is chemically treated, and is not attacked by vermin, fungus, or alkalies of dye houses.

In addition to solving the moisture-condensation problem, the sprayed asbestos also offers advantages of insulation and deadening of noise.

The cost of applying the asbestos spray coating (in England) is said to be from $2.40 to $3.00 per sq. yd.

Lap-Winder Spools Moistened To Prevent Waste

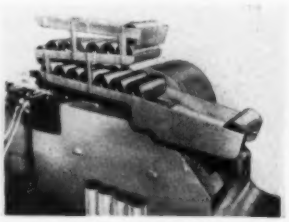
A new spool-moistening device for lap winders has been developed by Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass., to reduce wrinkling and overlapping of sliver laps when a new spool is started.

When spools are moistened by the spool-moistening device, fiber clings to the moistened surface, and correct tension is established and maintained at the immediate beginning of the lap. By using the device, it is no longer necessary to discard the first yard or so of lap to maintain fiber evenness in 5-row drawing or in combing. This smooth lap end is particularly important when preparing laps for the comber, as it decreases the possibility of damage to the combing needles because of bunching of fiber.

Doffing time is also said to be shorter.

The spool-moistening device is said to consist of a magazine feed which automatically moistens a spool and places it within easy reach of the operator whenever the lap winder is doffed. As the operator opens the safety hood to doff the lap, a pin in the side of the safety hood trips a bracket and releases one spool which moves across a cloth wick which moistens the surface. The wick is kept moist by absorbing water from a supply at the bottom of the magazine. The water contains a special wetting agent which reduces the surface tension of the water and assures immediate and positive adhesion of the fiber to the spool. Positive and immediate friction between the spool and the end of the fiber making up the lap is thereby assured.

The company states that the spool-moistening device will reduce the percentage of waste made at the lap-winding process sufficiently to pay for itself in a very short time. The unit is easily applied to any existing lap winder, and will be standard on all new equipment for both 9- and 10½-in. machines.



***SLIVER-LAP WASTE** caused by wrinkling and overlapping at the beginning of a new lap is said to be eliminated by this device which moistens spools.*

Dependable Strength

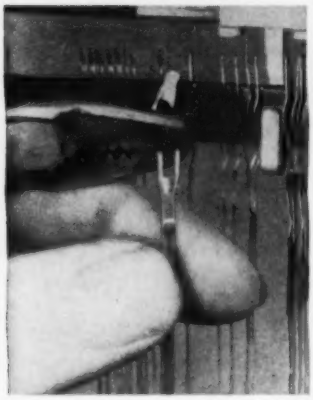
Textile Spring-Beard Needles are outstanding for strength. A special steel formula, superior tempering and scientific controls—automatic and electronic—give Textile Needles the right combination of strength and flexibility for dependable performance in your needle bars.

Strength is just one of the many advantages you get in Textile Spring-Beard Needles. You can see the results in better fabrics, increased profits.

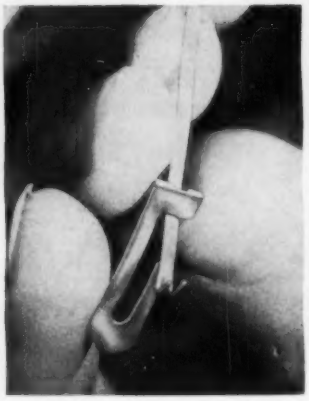
TEXTILE MACHINE WORKS, READING, PENNA.

Textile
SPRING-BEARD NEEDLES

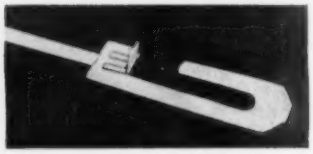
For Full Fashioned and Warp Knitting



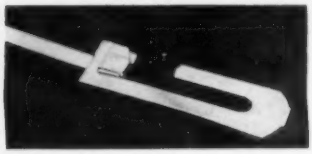
IN REPAIRING HEDDLES with no swedge shoulders, as some silk and rayon types, the old heddle is cut so that two prongs of the old loop remain.



THE REPAIR is placed over the old heddle end, and the short prongs which remained from the old heddle are bent over as shown above.



PRONGS are bent over completely . . .



AND LOCKING CLIP is clinched tightly.

Heddle Repair Modified for Lightweight Heddles

A modified use of the recently developed Walker Lock-on heddle repair to permit fast, permanent repair of very lightweight heddles has been announced by Walker Mfg. Co., Philadelphia, Pa. This modification is said to give strong, fast, permanent repairs with heddles having no swedge shoulders, such as silk and rayon types for 0.015x5/16 silk rods and 0.032x5/16 rods.

The same repair head is used as is required for the repair of conventional heddles having swedge shoulders. The difference, however, is in the cutting and treatment of the broken top loop. The heddle wire is broken about an eighth of an inch or more above the top loop, leaving two small prongs. The lock-on repair is inserted over the heddle wire and the prongs bent down and clinched.

The only tools said to be required are the conventional expansion-jaw pliers, and long-nose pliers. It is further reported that repairs are possible in both top and bottom loop without disturbing the warp. Walker Lock-on heddle repairs are finding wide acceptance in the case of mis-draws. The same finished length of repaired heddle is provided as in the original heddle.

It is claimed by the company that down time for heddle repairs is cut to less than one-third of that required with conventional heddle repairs. Free samples are offered by the company.

Boil-Off Machine Has Five New Features

Five new features designed for removal of chemical elements used in the boil-off are incorporated in a new unit developed by Hinnekens Machine Co. Inc., Paterson, N. J.

A new opener with rubber expanders opens the goods completely so that there are no doubled up places to affect squeeze-roll pressure, or mark goods.

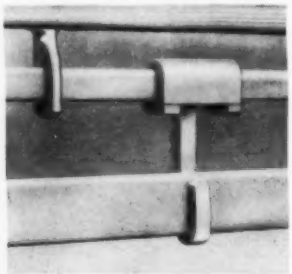
A new squeeze-roll device presses out the bath liquid remaining in the cloth and returns it to the bath tank. Loss of usable chemicals is prevented.

A new stainless-steel vertical spray washes the goods thoroughly to remove chemical residue.

Excess liquid is removed by a new squeeze roll, and cloth is prepared for jig or similar dyeing.

A new take-up arrangement provides for rolling up goods, or a pleater arrangement can be provided for loading goods on trucks.

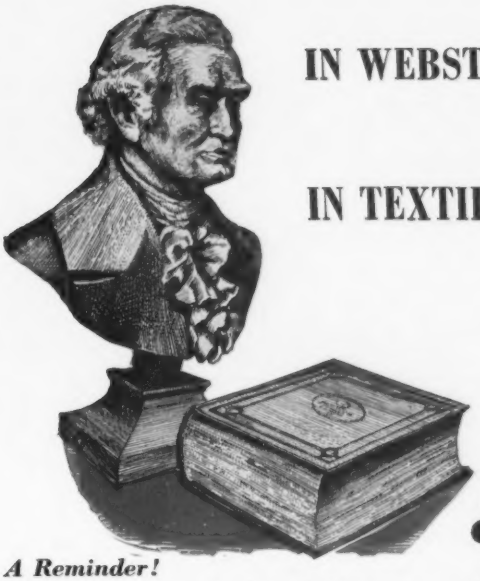
Slide Hook Will Not Bind, Eliminates Warp Streaks



UNEVENLY DISTRIBUTED WARPS are self adjusting and warpstreaks are eliminated when this new slide hook is used.

A new free-riding slide hook recently developed by Walker Mfg. Co., Atlantic & Ruth Sts., Philadelphia 34, Pa., is said to make warps completely self-adjusting for silk-type frames. It is further reported that the slide hook does not angle or bind. Labor costs required for frequent warp adjustments are reduced, and fabric quality is improved by eliminating streaks. Made especially for silk-type frames for fine goods and worsted mills, the new slide hook is said to increase frame and rod life and to eliminate streaks and other imperfections caused by poor warp distribution. It is designed to provide wide bearing area on the slide rod. This hook also provides firm yet free support for the heddle rod, thereby eliminating holes in the warp.

The new design permits contact all the way around the slide rod, thereby reducing work and assuring great freedom of movement and practically no possibility of cocking or binding. The exclusive, all-around, wide bearing surface is said to give longer rod life, lower wear, and better cloth quality. The slide hook is made from the special-analysis tempered spring steel for maximum light. It is cadmium-plated to prevent rust and resulting warp damage.



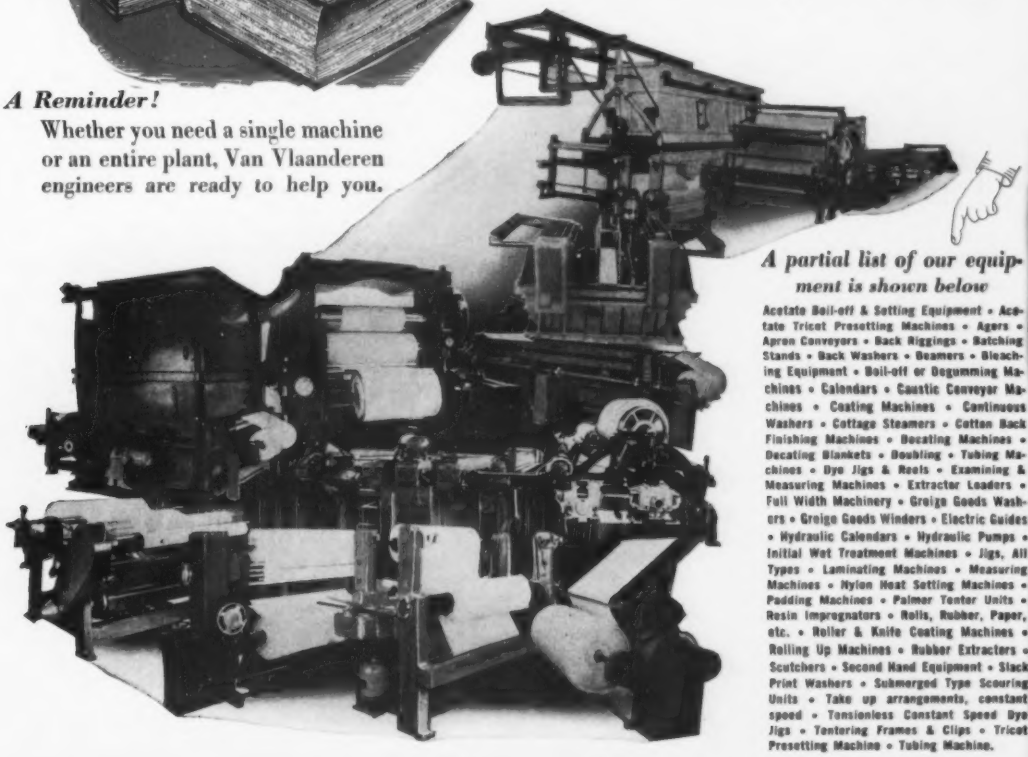
IN WEBSTER'S "VAN" means . . . those in the lead.

IN TEXTILES, "Van Vlaanderen" means the leader in dyeing and finishing equipment.

For nearly fifty years Van Vlaanderen has always been a step ahead—in design, in workmanship and in service.

A Reminder!

Whether you need a single machine or an entire plant, Van Vlaanderen engineers are ready to help you.



A partial list of our equipment is shown below

Acetate Boil-off & Setting Equipment • Acetate Tricot Presetting Machines • Agers • Apron Conveyors • Back Riggings • Batching Stands • Back Washers • Beamers • Bleaching Equipment • Boil-off or Degumming Machines • Calendars • Caustic Conveyor Machines • Coating Machines • Continuous Washers • Cottage Steamers • Cotton Back Finishing Machines • Decating Machines • Decating Blankets • Doubling • Tubing Machines • Dye Jigs & Reels • Examining & Measuring Machines • Extractor Loaders • Full Width Machinery • Greige Goods Washers • Greige Goods Winders • Electric Guides • Hydraulic Calendars • Hydraulic Pumps • Initial Wet Treatment Machines • Jigs, All Types • Laminating Machines • Measuring Machines • Nylon Heat Setting Machines • Padding Machines • Palmer Tenter Units • Resin Impregnators • Rolls, Rubber, Paper, etc. • Roller & Knife Coating Machines • Rolling Up Machines • Rubber Extractors • Scutchers • Second Hand Equipment • Slack Print Washers • Submerged Type Scouring Units • Take up arrangements, constant speed • Tensionless Constant Speed Dye Jigs • Tentering Frames & Clips • Tricot Presetting Machine • Tubing Machine.

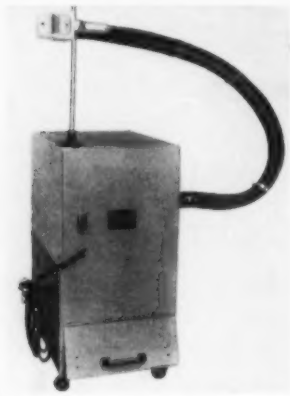
VAN VLAANDEREN MACHINE COMPANY

370 Straight Street, Paterson 3, New Jersey

Cable address: Vlaanderen, Patersonnj, U.S.A.

World's largest manufacturer of machines for processing modern fabrics

Trimmer Is Compact, Portable, Low-Cost



NEW DESIGN FEATURES improve the versatility and portability of this trimmer.

A new Marco suction thread trimmer, Model 4, has been introduced by B. J. Philips Co., 110 W. 30th St., New York, N. Y., as a compact, portable machine at a lower cost. The machine is designed to work anywhere, whether on a trimming table, on a sewing-machine stand, or out on the open floor with the cutting head supported on top of the machine housing.

Specifications include a heavy-duty ball-bearing continuous-operation ¼-hp. motor that is totally enclosed and protected with a G.E. built-in Thermo-Tector to disconnect current when overheated. The unit is said to have a low operating cost as it consumes only 4.2 amps. at 115 v. The machine was especially designed for low voltage consumption.

The compact housing for the machine is 12 in. wide by 16 in. long by 25 in. high. The height includes the swivel casters which give portability to the machine.

A variety of cutting-blade sizes and types is available for use on any trimming operation. A selection of comb types of various spaced openings insures the right comb for each job. An added advantage is the ability to space the comb flush to or away from the cutter blades, according to the nature of the fabric to be trimmed; plus the ability to raise or lower the comb from the blade surface. Thus, both a close cut for single-needle threads or an overhanging cut for overlock stitched threads are possible. A simple arrangement for removing the cut threads is located at the lower section of the housing.

Delivery can be expected in about two weeks.

British Twister Has Novel Spindle Drive

A new high-speed, stop-motion ring twister has recently been developed by J. & T. Boyd Ltd., Shettleston, Glasgow, Scotland. The twister has a novel method of driving spindles which is said to increase tape life considerably.

The tape passes around a normal driving cylinder, is tensioned by horizontal tension pulleys, and then around a vertical pulley. This upright pulley has live and dead sections. A secondary tape is used for driving the spindle. This tape also runs on the live section of the upright pulley when the spindle is running. The primary tape drives two vertical pulleys, one on each side of the frame, but there is a secondary tape to each individual spindle.

When the full-bobbin stop motion operates, in addition to the normal action of raising the top roll and stopping delivery of the ends, the upright pulley is raised and the secondary tape passes to the dead section. The spindle is gently brought to rest simultaneously with the stoppage of yarn delivery. The primary tape continues to revolve meantime, and this continuous running is said to increase tape life considerably. The tapes are not in contact with any stationary surfaces which might cause fraying of the edges.

Other features of the frame are a lappet bar which has a traverse to coincide with the ring-rail traverse and so maintain constant balloon size and increase uniformity of yarn tension; hard chrome rollers, if required, to prevent marking of rollers when laps are cut off; angled glass rods for even spacing of ends; and a double-section spindle rail.

All pitches of frames can be made to take either 9- or 11-in.-traverse bobbins.

Plug-In Unit Simplifies Humidity-Control Installation

HUMIDIFIERS can be plugged into and automatically controlled by this inexpensive unit. Complicated wiring and control brakes are eliminated.

A new plug-in humidity controller for operating electrically powered humidifiers and dehumidifiers has been developed by Abbeon Supply Co., 58-10 41st Drive, Woodside, N. Y. Previously, it has been necessary for a skilled electrician to be employed to install the existing types of controls by running electric lines, cutting into power lines, and attaching relay boxes to the pilot controls. With this new plug-in humidity controller, the necessary electrical work has been done at the factory, and only three steps are now necessary:

1. Plug the humidifier or dehumidifier into the control.
2. Plug the control into a wall outlet.
3. Set the dial at the percentage of relative humidity desired.

Operation is then fully automatic.

This controller can handle a load of 15 amp. at 115 v., or a continuous load of 1,700 w. Price is $45.00.

Four-Box Washer for Knit-Goods Bleaching

A new four-box washer designed especially for knit-goods processing and continuous knit-goods bleaching ranges has been developed by Rodney Hunt Machine Co., Orange, Mass. The washer is said to provide high-speed, tensionless washing with the high degree of relaxation necessary in processing knit goods to avoid stretching.

Completely lacking in immersion rolls, this unit provides highly efficient washing with complete lack of tension. Actually, the fabric almost floats through the machine. Special doctors are provided to strip the knit goods away from the squeezer rolls that operate at high speeds.

The tubs of the washer are of corrosion-resistant stainless steel, and feature the Rodney-Hunt "curve-of-strength" construction.

ARIPERM pm

Your reputation won't fade... if your acetate fabrics don't!

***ARIPERM PM® Prevents Gas Fading**

When colors fade, so does consumer confidence in the manufacturer's label; this "backs up", eventually, to the dyehouse. There's no need for this with fabrics (partially or wholly) of ACETATE RAYON, for *they can be given protection against fading from atmospheric gases. ARIPERM P M does the job.* Its durability means exceptional protection through washing and dry cleaning.

ARIPERM P M is especially valuable for dyeing Light Shades, Pastels and Tints, since it does not throw the shade over to the yellow. Application is simple, in scouring or directly in the dyebath. Write for details, sample, demonstration.

Arkansas Co. INC.

MANUFACTURERS OF INDUSTRIAL CHEMICALS FOR OVER 45 YEARS

NEWARK, NEW JERSEY

Arkansas Co., Inc.
184 Foundry St.
Newark, N. J.

Gentlemen:

I would like to have, without obligation:

- ☐ full details of ARIPERM P M benefits
- ☐ sample and application procedure
- ☐ demonstration in plant

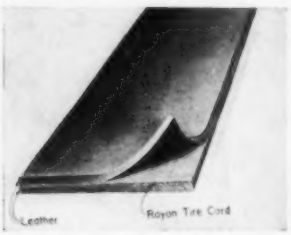
NAME _____ TITLE _____

FIRM NAME _____

ADDRESS _____

CITY _____ STATE _____

Leather Belt Has Rayon-Cord Insert



***STRETCHING IS MINIMIZED** in this new leather belt by a rayon tire-cord insert which does not prevent splicing in the same manner as is done with a normal leather belt.*

A new type of flat leather belting incorporating a rayon tire-cord insert to assure stretch-resistance is being produced and distributed by the Chas. A. Schieren Co., New York.

The new belt has a layer of rayon tire cords cemented between two layers of Schieren Duxbak leather belting. The new product will be known as Schieren Duxbak rayon-core belting.

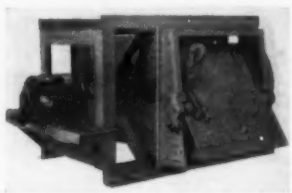
Low-stretch characteristics in service are claimed for the belt. Some users of rayon-insert flat leather belts have reported 6 months to a year of operation without any take-up.

This rayon-core belt can be scarfed and made endless with the same ease and the same methods as any other flat leather belt. Regular belt fasteners or lacing can also be used. The rayon-core belt has the same degree of salvageability as ordinary belting and can be handled in exactly the same way.

The general advantages claimed for this stretch-resistant Schieren belting are more machine output, reduced down time, longer belt life, less maintenance, and maintenance of the driven speeds required to insure product quality.

In the textile industry, many of these belts are now being used on strippers and as the eccentric belts of cards, where a straight-running belt is desirable. The belt is also suited to a Rockwood or pivoted-base drive and is said to allow longer periods of operation without necessitating any adjustments. The new rayon-insert-type belt is said to be very satisfactory on mule spinning frames, where the belt is shifted frequently and where the low stretch characteristic can effect quite an improvement in total machine production over a period of time.

Draft Inducer Has Integral Barometric



***HIGH COMBUSTION EFFICIENCY** can be attained with this new draft inducer with built-in barometric dampers.*

A new draft inducer with integral barometric for the more precise control of furnace draft has been developed by L. J. Wing Mfg. Co., Linden, N. J.

The draft inducers are now equipped with variable-speed motors and can be equipped with integral barometric dampers, the combination of which permits the operator to achieve highest combustion efficiency. An important feature of the barometric is a hinged explosion gate to relieve any excessive pressures that may develop in the breeching, thus preventing damage to the heating system which might be caused by such pressure.

Pallets Loaded Automatically

***A PALLET-LOADING MACHINE** takes packages from conveyor lines and stacks them automatically on pallets in a pre-determined arrangement and interlocking layers. The loader was developed by Alvey Conveyor Mfg Co., St. Louis, Mo.*

Gravity-Feed Oilers Available With Capacity Up to 2½ Qt.

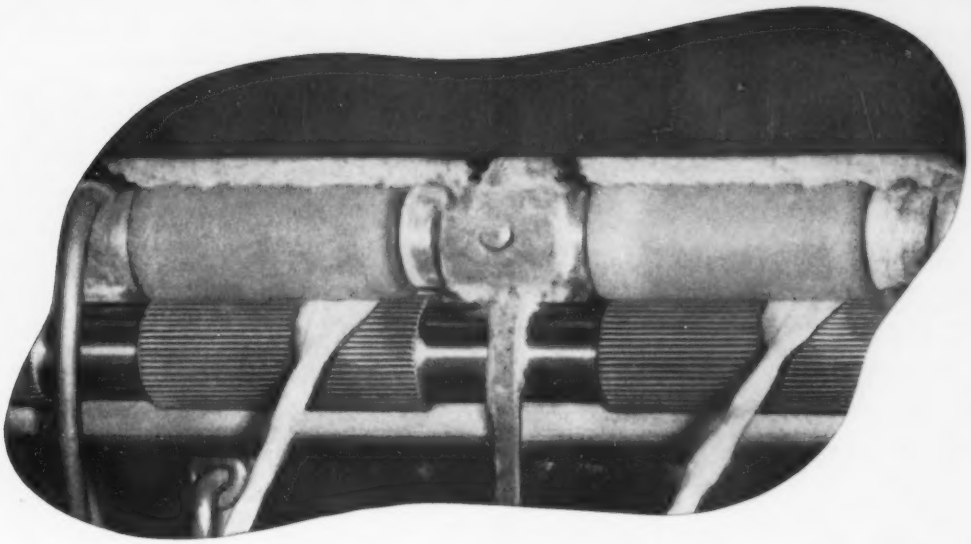
***LARGE-CAPACITY OILERS** are designed for application on large bearings, journals, etc.*

New large-capacity gravity-feed oilers are now available in 10-oz., 1-pt., 1-qt., and 2½-qt. capacity Pyrex glass or Lucite plastic reservoirs from Trico Fuse Mfg. Co., N. Fifth at W. Chambers, Milwaukee, Wis. Designed with lock-ring or ratchett-feed adjustment, the oilers are designed to feed any predetermined number of drops per minute.

The oilers are especially recommended for applications on large stationary bearings, machinery, journals, conveyor drive chains, etc., or wherever a large quantity of oil is required or when it is desirable to extend reservoir refilling time as long as possible.

Rate of feed is obtained by regulating a simple needle-valve control. The setting is firmly locked in place. When the shutoff lever at top of oiler is in upright position, oiler feeds at the set rate. When the lever is flipped to the side, oil feed stops. Held at 45° angle, the oiler flushes the bearing—a desirable feature when starting machines that have been idle for any length of time.

Oilers are provided with standard threads for mounting directly on top of bearing or part to be lubricated. The units are also available with a lock-nut on the sight fitting for tightening to mounting bracket and with a compression fitting for connection to copper or Neoprene tubing. This style is recommended where it is not convenient or practical to mount the oiler directly on a bearing housing, or where excessive vibration exists. Filler caps are of ample size, dust-proof, self-closing and have extended life for convenience in opening. All metal parts are reinforced and silver-alloy-brazed to provide a single solid, non-leaking unit.



No eyebrowing with these cots

Eyebrowing stops when you equip a frame with Armstrong's Cork Cots. These covers pack the loose waste fibers well back under the clearer board. Eyebrows never have a chance to form.

A microscope shows you the reason (see below left). The surface of every Armstrong Cork Cot is made up of millions of tiny cork cells. As the yarn passes under the cot, the cells act like tiny suction cups . . . they pick up the loose fibers and carry them under the clearer.

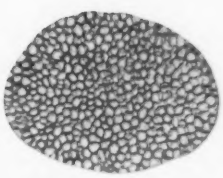
These millions of cork cells also give the cot its exceptional high-friction surface. This is why cork cots keep a firm grip on the fibers and draft such strong, uniform yarn . . . why they resist slicking and reduce clearer waste as much as 50%.

Armstrong's Cork Cots are economical, too. They are low in initial cost and provide two to three years' service with a minimum of maintenance. Occasional buffing keeps them spinning like new.

You'll find it hard to match Armstrong's Cork Cots for economy and eyebrow resistance. Test them on a frame in your own mill and you'll see. Call your Armstrong representative today for samples or write Armstrong Cork Company, Textile Products Department, 8302 Arch St., Lancaster, Pennsylvania. Available for export.

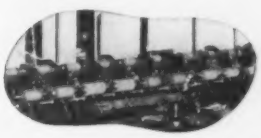
ARMSTRONG'S CORK COTS

for high-quality spinning at low cost



Superior Friction—Here (magnified many times) are the tiny cork cells that give cork cots high friction.

Seamless—Extruded in one piece, Armstrong's Cork Cots have no seams to cause premature failure.



Economical—Low in cost, easy to maintain, Armstrong's Cork Cots keep covering costs to a minimum.

Stainless-Steel Truck Designed for Dyehouses

NEW STAINLESS-STEEL truck for use in dyeing and finishing plants is corrosion-resistant and easy to clean. Construction also facilitates draining off of fluids.

A new stainless-steel truck has been designed by the Market Forge Co., 48 Garvey St., Everett 49, Mass., expressly for handling textiles in dyeing and finishing plants.

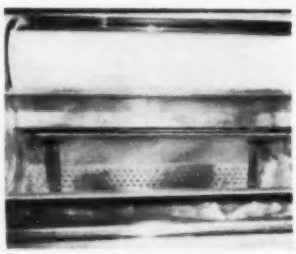
The bottom of the truck is higher in the center than at the sides to facilitate the flow of the draining fluid through the side openings. The sides and ends of the truck are carefully reinforced with separate ribs of stainless steel for greater strength. The top edge is also reinforced, and rubber bumpers are furnished on the ends.

Because of the specialized design and the stainless-steel construction, the truck is highly resistant to the corrosive action of the chemicals used in dyeing and finishing. The trucks are also said to be easy to keep clean.

All wheels are made of cushion rubber and have roller bearings. Plastic wheels, semi-steel, or Neoprene wheels can be furnished to suit individual requirements.

Specifications of the unit are: capacity, 2,000 lb.; length inside, 72 in.; width inside, 36 in.; depth inside, 28 in. Running gear consists of 12x2½-in. bull wheels with roller bearings and swivel casters 6 in. in diameter with a 2-in. face.

Variable-Height Weir Holds Wash Liquor at Proper Level



VARIABLE-HEIGHT WEIR is part of a system designed to assure positive counter-current flow of liquors, with uniform predetermined level, in a continuous washer.

A new variable-height weir for the Laxloop continuous washer has been developed by Riggs & Lombard, Inc., Lowell, Mass. This weir is part of a system designed to assure a positive counter-current flow of liquor, with uniform predetermined level, in each tub. Each tub is equipped with a variable-height weir; and all liquor which flows over this weir is pumped to the preceding tub by a stainless-steel, flooded-suction, low-head-type pump. Thus it is possible to maintain a proper operating level in each tub while maintaining the maximum counter-current flow of liquor.

Fiberglas Finishing Truck Impervious to Moisture

MOLDED FIBERGLAS TRUCKS are said to be 6/10ths the weight of trucks made from conventional material.

A new finishing truck developed by Westport Fiber Corp., Westport, Mass., is molded in one piece from Fiberglas. The molded Fiberglas is moisture-proof and impervious to oil, grease, and most chemicals. The material is said to be tough, extremely light in weight, and can be permanently colored. The new trucks are reinforced with an angle-iron frame imbedded in the Fiberglas. There are no bolts, screws, or rivets to catch or tear cloth, and no wood to splinter.

The trucks are said to be 6/10ths the weight of trucks made from conventional material. They feature a perforated bottom, and are available in three popular sizes. A wide variety of casters is available for use on the new truck.

Variable-Speed Drives Feature Compactness

A new variable-speed transmission series incorporating the Worthington tandem-belt design, has been announced by Worthington Pump & Machinery Corp., Harrison, N. J. The new line, known as the Worthington Allspeed drive, will consist of six models, rated at horsepowers of 1, 3, 5, 7½, 10 and 15 respectively, and will offer variations of 16 to 1, 10 to 1, 9 to 1, 8 to 1, and 6 to 1 respectively. At 1,725 rpm. input, the 1-hp. unit offers a range of 215 to 3,450 rpm.; while the 15-hp. unit will vary from 370 to 2,220 rpm. with an input speed of 1,750 rpm.

Because of the tandem-belt design, the Allspeed drive is particularly suited to applications where space limitations require extreme compactness. Upon advance specification, each of the units will be furnished for vertical or horizontal operation, to run in either direction.

A handwheel control will be normally furnished. Electrical remote controls are available where required.

The new models have wide-spaced bearings which maintain the input and output shafts in true alignment, regardless of belt-tension load. All rotary motion in the unit is carried in shielded ball bearings, lubricated for life. All sliding fits are made with easily removable bronze composition bushings. Bearings on both the input and output shafts are locked to provide for a thrust load.

New type self-cooling belts are provided; and when necessary, belts can be readily changed without disconnecting the unit from other equipment.

The drive is available as a "packaged" unit, with built-in NEMA standard motors, or modified to suit specific requirements.

Dry Chemical Piped To Fire Areas

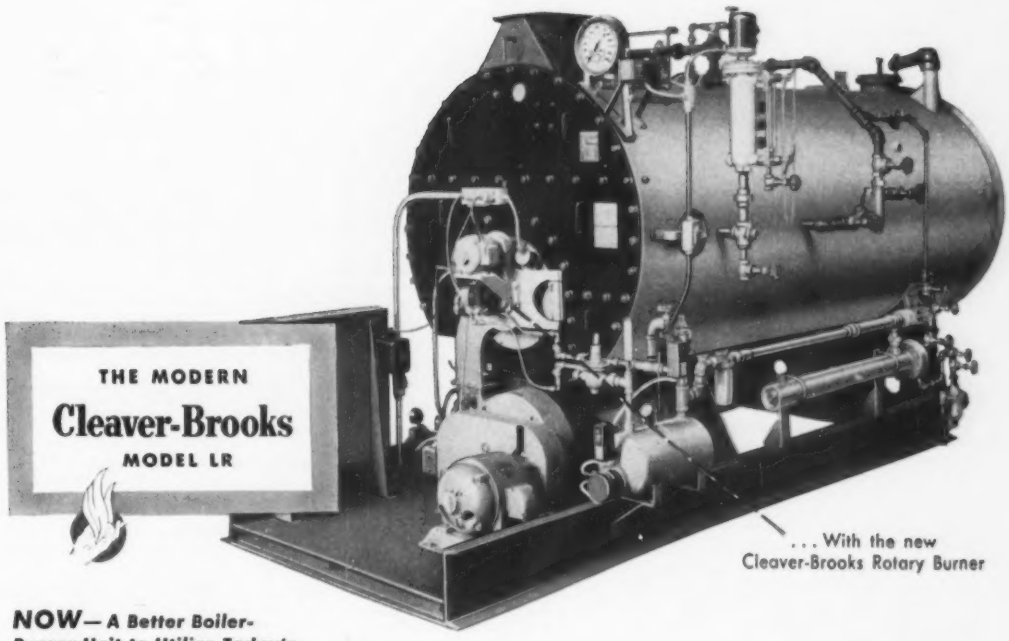
A dry-chemical piped system designed for automatic protection of industrial fire hazards has been developed by Ansul Chemical Co., Marinette, Wis.

The new fire-protection system, the first using dry chemical as extinguishing agent, is operated by heat-actuated device. When fire starts and temperature increases, air expands within the device. This action trips a nitrogen cylinder release, pressurizing the dry-chemical container.

Dry chemical is then discharged through strategically located distribu-

Design

FOR PRODUCING STEAM



. . . With the new
Cleaver-Brooks Rotary Burner

***NOW*— A Better Boiler-Burner Unit to Utilize Today's Low-Cost Fuels — Heavy Oil and Gas**

The Cleaver-Brooks Model LR is a "trail-blazer" in modern self-contained boiler design and construction. It makes more effective use of today's low-cost fuels, (heavy oils and gas), and you are assured of better boiler performance.

A Brief List of Notable Features:

— the new Cleaver-Brooks rotary burner — simple — compact — precision machined — perfect mechanical balance — fully automatic — provides unprecedented flexibility in burning heavy fuel oils or industrial gases.

— single low-speed, low-power consumption blower furnishes both primary and secondary air for combustion—less weight and space requirements — reduction in sound levels.

— totally enclosed, drip and dust-proof panel for all major electrical controls.

— electronic combustion safety devices, dual low water cutoffs — are standard equipment.

— simplified design of combination gas-oil burner permits change-over from oil to gas or vice versa in less than a minute.

— improved design of boiler furnace and liberal heating surfaces provide greatest economy with all fuels.

— boilers of all-welded construction — meet standards of A.S.M.E. boiler code and leading underwriters — burner approved by recognized national agencies.

The Cleaver-Brooks Model LR self-contained boilers are of a highly developed four-pass fire tube design — tested and proved by factory and field experience on several thousand boilers of this type.

Write for complete specifications, dimension data, firing rates.

CLEAVER-BROOKS COMPANY
370 EAST KEEFE AVENUE
MILWAUKEE 12, WISCONSIN

Now Ready: Bulletin SG 142 contains detailed data and description of the MODEL LR. Send for your copy today!

For more information, write direct or use Reader Service post card.

tion heads on the area of the fire.

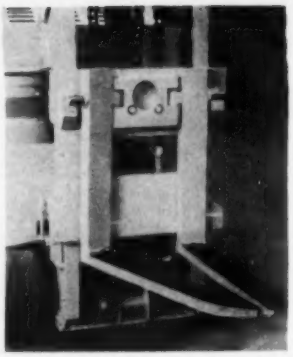
Automatic controls can be added to the system to close doors, windows, ventilation ducts, and to operate valves on pipes carrying flammable liquids. Electric controls can be included to shut off motors and fans, sound alarms, and transmit signals to central stations or fire-alarm headquarters.

Manual operation as well as automatic is provided in all installations.

Pivoted Fork-Truck Tines Swing Inward

Vertically pivoted forks for use on high-lift power industrial trucks have been developed by Elwell-Parker Electric Co., Cleveland, Ohio, to meet requirements in mills, warehouses, and shipping departments where loads frequently are maneuvered in congested areas. The device is furnished as an integral part of some models of

(Continued on page 216)



FOR MANEUVERING fork-truck loads in congested areas, fork tines on this truck can be pivoted inward.

DYES & CHEMICALS

New Dye Added To Neutracyl Range

A new dye, known as Neutracyl Red B, has been added to the neutracyl line of dyes manufactured by Dyestuffs Div., E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. Applied from a neutral dyebath to either nylon or wool, the dye exhibits high saturation affinity and can be used to produce a variety of shades from pastels to the heavier shades. This product is said to be absorbed readily, and the addition of a small amount of ammonium acetate to the dyebath will aid in obtaining maximum color value.

Neutracyl Red B is a bluish-red dye that is said to possess outstanding fastness to light. It is recommended for use in combination with a blue and a yellow of the same type for the production of brown, gray, and taupe shades which retain the good light-fastness properties.

These dyes are said to possess the best lightfastness obtainable on nylon. Neutracyl Red B exhibits a monotone fade and also has the property of appearing much brighter under artificial light. In other fastness properties, Neutracyl Red B is said to be very good to dry cleaning, perspiration, sea salt water, hot moist pressing; and it has good resistance to fulling, washing, and peroxide bleaching. It is also good to the effects of sublimation, crocking, Zelan, and resin treatments. On nylon this product has good to fairly good discharge properties.

On wool, the advantage of the new Neutracyl dyes over the Chromacyl types is in their neutral dyeing properties. This enables wool to be dyed without any possible damage from the use of sulphuric acid. Neutracyl Red B has light- and wet-fastness properties similar to those of the Chromacyl class. In combination-fiber fabrics, it stains acetate appreciably, cotton and viscose-process rayon noticeably, and silk very much.

Desizer Developed For Protein Sizes

A new desizer, Texzyme, has been developed by Pabst Sales Co., 221 N. La Salle St., Chicago 1, Ill. Texzyme is recommended as an effective desizer for rayons and acetates sized with protein sizes such as gelatin, casein, soya, etc. It is also recommended for stripping of real silk and for other textile applications where protein material needs modification or removal. The use of Texzyme before the boil-off is said to prevent hard finishes or imperfect and dull dyeing of fabrics.

It is recommended for use in lukewarm condition and at a neutral pH. The preferred pH is 6.7 to 7.5, and the preferred temperature is 110 to 120° F.

New Violet Dye Resists Gas-Fume Fading

Celanthrene Violet BGF is designed for the production of violet shades which possess outstanding resistance to gas-fume fading on acetate rayon and nylon, according to the manufacturer, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. It exhibits very good fastness to light, perspiration, crocking, dry cleaning, and hot moist pressing; and it shows good fastness to washing at 105° F. and to salt water.

The fastness on nylon is said to be slightly lower than that on acetate. Celanthrene Violet BGF is recommended for use on dress goods, linings, curtains, draperies, and similar articles that require very good general fastness.

Celanthrene Violet BGF is a direct-dyeing acetate color and can be applied in the customary types of dyeing equipment. It is said to disperse rapidly and thoroughly; and the manufacturer states that it incorporates well with printing pastes to produce evenly penetrated, speck-free prints that exhibit good resistance to sublimation. The color is not dischargeable. It stains cotton a trace, rayon noticeably, and silk and wool very much.

New Azoic Red Developed for Printing

A new azoic red dye for printing cotton and viscose is announced by Calco Chemical Div., American Cyanamid Co., Bound Brook, N. J. It comes in solution forms as Calconyl Red B single solution and Calconyl Red B double solution. They are said to produce a very blue-shade of red with good all-around fastness properties when applied by the usual procedure for printing stabilized azoic dyes.

The most important fastness properties of this new product are:

Light, 5
Cotton wash test No. 3, 4 to 5
Cotton wash test No. 4, 4
Chlorine [0.3% available chlorine], 4
Hot pressing, 5
Dry cleaning, 5
Plissé, 5

New Dye Used As Neutralizing Component

Celanthrene Fast Blue 2G is announced by Dyestuffs Div., E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. It is said to produce bright non-subliming aquamarine shades with good fastness to perspiration, crocking, hot moist pressing; and it has fairly good resistance to washing.

It becomes greener under artificial light and can be used as a neutralizing component for blue and violet combinations that flare red. Celanthrene Fast Blue 2G is suitable for both acetate rayon and nylon. When used with Acetamine Fast Yellow 4RL and Celanthrene Fast Pink 3B, it exhibits good fastness to light on bright nylon automotive upholstery fabrics. Draperies, blouses, evening gowns, sportswear, linings, and lingerie are other recommended end-uses for this dye.

The dyestuff is a fine, easily dispersed powder and is applied to staple, yarn, or piece goods by the usual methods. It has good affinity, is absorbed readily, and transfers well. Cotton and viscose-process rayon are stained considerably, while wool is stained very much.

Celanthrene Fast Blue 2G is of particular interest as a speck-free printing color for light shades on acetate, and it does not mark off when subjected to wet finishing treatments. It is not, however, suitable for discharge.

Here are 3 REASONS why you should get ALL THE FACTS *on*

MITIN

THE DURABLE MOTHPROOFER

Mothproofed with MITIN

MITIN with the Dye Makes the Public Buy

1 No other type of mothproofing on the market offers more dependable protection, such an amazingly longer life or such a carefully developed scientific background. MITIN* is outstanding in the field!

2 Geigy is set up to protect your good will with a regular periodic technical control program to reassure you that your runs are being properly mothproofed with MITIN.

3 Geigy is prepared to cooperate with your sales force in developing the full value of this modern sales stimulant.

The Geigy Specialist is ready to bring you all facts. Call him in today. He'll tell you how Geigy is set up to guide you through any of the simple MITIN application techniques (in your mill) and to back you with complete technical cooperation from there out. A call for a Geigy specialist entails no obligation. Why not write us today?

* U. S. Pat. No. 2,311,062

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THIS IS NO. 85 OF A SERIES ON

GETTING THE MOST FROM TWISTING

Information about twisting designed to show improvements in twisting equipment and new ideas in the twisting operation

TWISTING DIFFERENT YARN CONSTRUCTIONS ON THE SAME MACHINE Atwood Model 10 Ring Twister

In many mills twisting a large number of different yarn constructions in small lots, the amount of yarn being processed for any one construction may not be enough to require all the spindles on both sides of the twister, leaving some spindles inoperative.

There is, therefore, a definite advantage in being able to produce a different number of turns on the two sides of the frame, because more spindles can be kept producing, thus increasing output and lowering costs. This is particularly true if the mill has a small installation of twisters.

The insertion of different turns of twist on each side of the Atwood Model 10 Ring Twister has been made possible through the design of a new set of twist gears. By means of these gears, the Model 10 can be set to produce from .663 to 3.000 as many turns per inch on the driven side of the frame as on the driving side.

The *driving* side of the ring twister is the one on which the twist change gear (A in Fig. 1) is in mesh with the driving gear (B). The side on which these gears mesh varies, depending on whether "S" or "Z" twist is being inserted.

The gearing to produce the desired number of turns on the *driving* side is established first. This is done by using the standard formula:

$$\frac{\text{CONSTANT}}{\text{Turns per inch}}$$

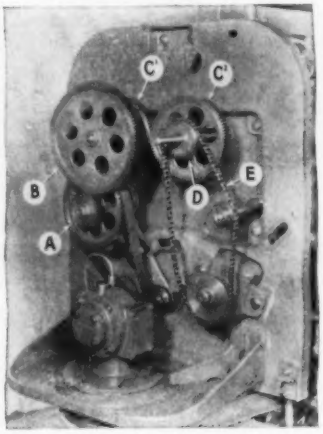


Fig. 1 Head end of Atwood Model 10 Ring Twister showing twist gearing. Twist gears (C) can be changed to run a different twist on each side of the machine.

This determines the twist change gear to be used.

Next step is to determine the twist gears (C in Fig. 1) that will produce the desired twist on the *driven side*. The ratio is :

$$\frac{\text{Turns per Inch (Driven Side)}}{\text{Turns per Inch (Driving Side)}}$$

Once the ratio is found, the proper twist gears can be located by referring to a Supplementary Twist Gearing Table (see "Twists and Winds No. 84," available upon request).

Example It is desired to produce 3½ turns per inch on the driving side and 4½ turns per inch on the driven side. The constant is 200.22. Dividing the constant by 3.50 indicates that a 57-tooth twist change gear is required to produce 3½ turns per inch on the driving side. The ratio of turns per inch driven side to turns per inch driving side is:

$$\frac{4.5}{3.5} = 1.286$$

Referring to the Supplementary Twist Gearing Table, it will be found that the nearest ratio to 1.286 is 1.301, and that this ratio can be obtained by using a 73-tooth twist gear (C^1) on the driving side and a 95-tooth twist gear (C^2) on the driven side. The actual turns per inch obtained on the driven side with this combination is 1.301 x 3.5 or 4.55 turns per inch.

Since the twist gears (C) are located on fixed centers, the ratio between the supplementary twist gears necessarily has to be confined to that which will allow the gears to mesh properly within a fixed distance between the two feed gear shafts. For this reason, the various turns per inch which can be inserted with this set-up are not quite so numerous as with the standard twist gearing for running the same twist on both sides.

The twist gears (C) can be changed easily and quickly. The driving gear (B), builder driver sprocket (D), and roller chain (E) are removed from the feed gear shafts. This allows the twist gears (C) to be removed and replaced by the gears which give the desired number of turns on each side of the frame, following which the parts removed from the feed gear shaft, are placed back in position.

February 1951

WINDING AND TWISTING MACHINERY FOR NATURAL AND SYNTHETIC YARNS

UNIVERSAL WINDING COMPANY

Atwood Division

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA CHICAGO LOS ANGELES MONTREAL and HAMILTON

Round Table

Letters from readers, *of both technical and general interest, will be considered for publication in these columns for the benefit of the textile industry. If you wish to add your knowledge and ideas to those expressed in the Round Table or elsewhere in* TEXTILE WORLD, *please write us a letter, or use the Reader-Service card bound into each issue. Origin of your letter will be kept confidential upon request in writing at the time you submit your contribution, but be sure to sign your name as evidence of good faith.*

LETTERS FROM OUR READERS

TEXTILE QUIZ

Dear Editor:

In a recent issue of *Round Table* you asked whether readers find the textile quiz too broad. My answer is definitely, "No."

There are too many divisions in the textile industry to have a textile quiz apply to any specific branch. Questions that concern my branch may not appear once every two years. If I were interested only in my field, the quiz would be of little value.

But I think it is a business and social asset to have a broad knowledge of one's industry. The broader my knowledge is concerning the textile industry, the greater my chances are for advancement in my own particular niche. "Test Your Textile IQ" helps me to check myself.

Anyone with incentive, ambition, and imagination will applaud every textile quiz that covers the entire field.

D. H. TURNER

Albemarle, N. C.

MINIATURE LOOM

Dear Editor:

I think TEXTILE WORLD should make some note of the fact that Mr. J. T. Cox, a textile worker here in Greenville, has built a miniature loom that is attracting much attention. Mr. Cox has spent his spare time for nearly 17 years at work on his brainchild.

Nearly all of the almost 3,000 parts are scrap: typewriter and automobile gears, wire nails, a bobby pin, a hair-pin, one of his children's teething rings, and an old hand drill. The loom frame is of scrap boiler plate.

The ½-hp. motor came from a peanut roaster. There is an electric stop-motion attachment that works if a warp end breaks. The loom runs 172 p.p.m., and weaves 3½ in. per min.

Mr. Cox should receive some recognition for his perseverance and ingenuity.

A READER

Greenville, S. C.

SUPERFLUOUS KINK

Dear Editor:

Regarding your feeler-wire kink on page 176 of the December issue, I should like to make a suggestion.

The flat spring is only pressing on the shield when the shipper handle is off. When the shipper is pulled on, the shield will stay down. It would probably knock the feeler up through the cloth if the handle is off and the loom is turned over by hand. But who's going to run a loom that way anyway?

I think your man will find his trouble is that the flat spring is hitting the dagger as the loom is running, and as the dagger goes back and forth. Repositioning of the flat spring either up or down will probably correct the trouble and stop the feelers from going through the cloth.

Putting a steel plate on the breastbeam doesn't correct the trouble. It just covers up the real fault.

CHRIS CARRAS

Vancouver, B. C.

AATCC-PAPER CORRECTION

Dear Editor:

I would like to call your attention to the article on page 128 of the December issue. In paragraphs 3, 4, and 8 of the digest on "Caustic-Silicate Control Ratio Developed by Mill," you have used the term sodium chloride, which should read sodium fluoride.

The correct term is used in the first paragraph, but anyone reading this digest might be confused by the error noted.

You are to be congratulated on the excellence of the digests of technical papers presented at the AATCC convention.

GEORGE M. GANTZ

Lincoln Bleachery & Dye Works

New York

TEXTILE TICKLES . . . . . By *Edgar Allen, Jr.*

"I wonder if you've gone a bit too far in getting low overhead?"

"DUMBER EVERY YEAR"

Dear Editor:

I should like to congratulate you on your own special article under "The Long Range View," entitled "Don't Get 'Dumber Every Year'." [TW, Dec., '50, p. 4]

The same sort of atmosphere of secrecy has obtained in this country for many years; but thank goodness, it is now being dispersed. Our research association is doing a good deal to explode old theories and old ideas, and will continue to do this as our researches progress.

Careful and intelligent research brings out the truth, and from Torridon we are trying to publish the fundamental truths of manufacturing too in as simple a language as possible.

D. R. H. WILLIAMS
Colne Road Mills
Huddersfield, England

WOOL SUBSTITUTES

Dear Editor:

In view of the shortage of wool, why don't mills use hemp and linen, with or without mixtures of wool and other fibers, for real durability and long-range economy?

Hemp and linen provide the strength that cotton and rayon lack; and with a little wool added, the warmth too.

I understand processing machinery is now available to make hemp and linen more economical.

JOHN PIQUET
Newark, N. J.

MULTI-PLY YARN NOMOGRAPH

Dear Editor:

An additional thought on Mr. Hicks' nomograph and mine [TW, Jan., '51, *Round Table*] is that the nomograph can also be used to give the equivalent count of three or more yarns twisted together. However, it must be borne in mind that the error due to contraction or take-up of singles will be greater in multi-ply yarns than in two-folds.

The attached sketch illustrates how the combined yarn count is obtained for a three-ply made with singles of 64s, 48s, and 24s counts, assuming there is no take-up.

Point 64 on the Y-axis is joined to point 48 on the X-axis. The line drawn cuts the combined yarn-count scale at 27.4, which can be noted on the X-axis as indicated. Point 27.4 on the X-axis is joined to the remaining single-count number 24 on the Y-axis. This line cuts the combined-count scale at a point where the 3-ply count is read off as 12.8.

The repetitive process for further singles is fairly obvious.

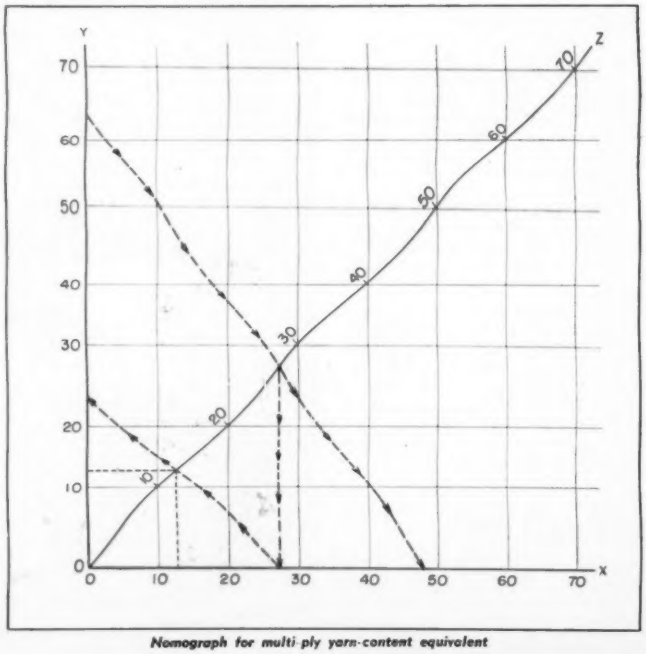
Results obtained from using this nomograph thus for multi-ply yarns are the same as those by calculation, as can be proved geometrically.

D. C. SNOWDEN
The University
Leeds, England

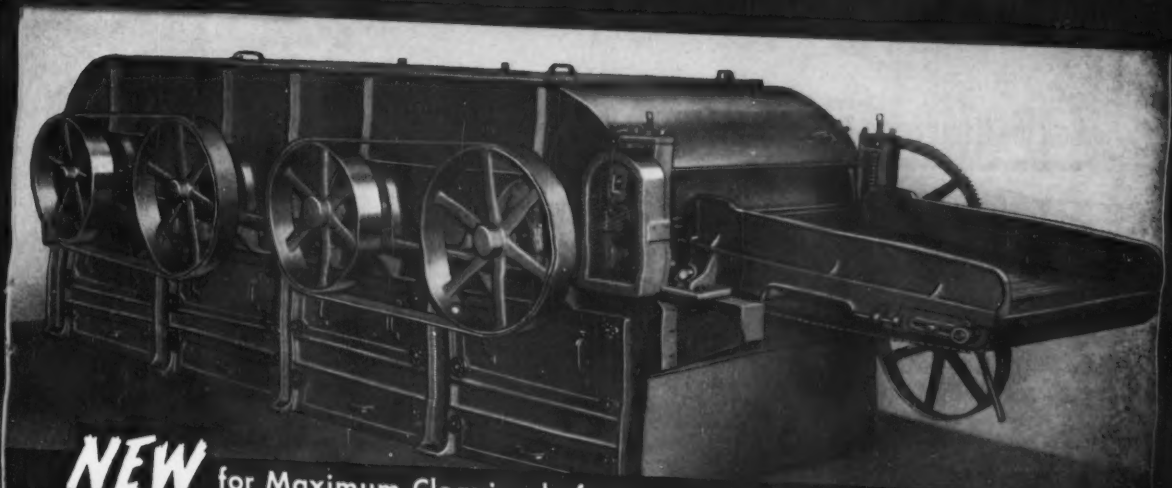
TEST YOUR TEXTILE I Q

▶ **Each correct answer rates 10 points. A total of 70 is passing; 80, good; 90, excellent; 100—you're a genius! Keys to answers are on page 244.**

1. What organization has undertaken an analysis of textile operating methods with the main objectives of reducing operating costs and improving product quality?
   a. ASTM c. STA
   b. ASME d. TOE
2. The new "Textralizing" process is designed to
   a. eliminate cards c. crimp fibers
   b. dye Orlon d. increase drafts
3. The cost of the material in cotton print cloth is what percent of the total cost of the fabric?
   a. 5% c. 35%
   b. 20% d. 50%
4. The new Warner & Swasey weaving machines are reported to give production increases as high as
   a. 10% c. 100%
   b. 50% d. 200%
5. Improved quality and lower weaving costs of rayon fabrics are certain to result from this new development:
   a. new soaking process c. slashing from cones
   b. twist setting d. warping from cakes
6. Power consumed by a spinning spindles increases when
   a. spindle speed decreases c. oil viscosity decreases
   b. package size increases d. fine yarns are spun
7. A new management tool which increases production incentive is
   a. profit sharing c. lower work loads
   b. higher rates d. health insurance
8. What new synthetic fiber can be carded for long periods without stripping?
   a. nylon c. Vinyon
   b. acetate d. dynel
9. One of the reasons that large cores are preferred over small cores in package dyeing is
   a. large cores are cheaper c. greater resistance to flow
   b. less preparatory processes d. better dye penetration
10. Before he can have his own machine, a full-fashioned knitting trainee should be trained for
   a. 1 to 2 weeks c. 6 to 8 months
   b. 4 to 6 weeks d. 3 to 4 years



Nomograph for multi-ply yarn-content equivalent



NEW for Maximum Cleaning before scouring, for non-breakage of Fibers

SARGENT'S

4 CYLINDER

WOOL OPENER

The SARGENT FOUR-CYLINDER WOOL OPENER offers wool scourers, also woolen and worsted mill operators all the modern advantages they're enjoying from our Double Cylinder openers, PLUS a maximum of cleaning and opening of the fibers, thereby reducing scouring costs. Its many distinctive features include:

- An adjustable nip for the feed rolls. For short fibers, rolls can be run close to the teeth of the first opening cylinder. For long fibers, rolls are set further away from cylinder, preserving staple lengths, preventing fiber breakage.
- Variable speed drive for the feed rolls and feed apron.
- "V" belt motor drives for the cylinders.
- Screens easily removed from side.
- Hinged covers on top expedite cleaning when required.
- Ball-bearing mountings.
- A large capacity with production up to 3000 lbs. of grease wool per hour.

Write us for complete details.

C. G. SARGENT'S SONS CORPORATION

GRANITEVILLE, MASSACHUSETTS, U.S.A.

Pointers FOR SUPERVISORS

Lick Your Manpower Problems Before They Start

By MACON P. MILLER
Director of Industrial & Public Relations, Fieldcrest Mills

A BETTER USE OF HUMAN RESOURCES will be of major concern to all industrial supervisors during the coming months. With an inevitable manpower shortage and piling up of military and civilian orders, Mr. Supervisor will have to use every trick in the bag to meet a tough production schedule. To better use the human resources available, you should try to . . .

1 Know the present work force

The supervisor should study his group. You should know those capable of doing more skillful jobs. You should know the men who can be switched around in the department to better use the green help coming in. You should have from the personnel department a list of those likely to go into the Army, and a probable time schedule for replacement purposes. You should have some knowledge of the available help in the community, those who have formerly worked in the department, and you should work with the personnel department to get such trained workers back into the industry.

2 Acquaint the workers with problems to be met

A thorough knowledge of what has to be done and the importance of doing it now will do wonders in bringing out the latent ability in a group of people. Story after story of production miracles came out in the last war, and most of the results can be attributed to the skillful ability of supervisors who got men to want to do the job when it had to be done.

3 Build a more versatile work force through intelligent training

Time spent with the training director now can save you many a headache in the months to come. Most supervisors have a pretty definite knowledge of how long it takes to train a worker to handle a specific job. The payoff is to know which will be the critical jobs and to start soon enough. A well-thought-out training program, if started in time, can save not only dollars, but also delay which might be critical later.

4 Speed up induction of new employees

A green man in a department is like a new bearing. Break him in right, and he quickly becomes an effective cog in the industrial machine. Bungle the job, and he will give constant trouble until adjusted or replaced. Induction programs, when properly carried out, are the lifeblood of an efficient department or organization.

5 Encourage the use of better methods

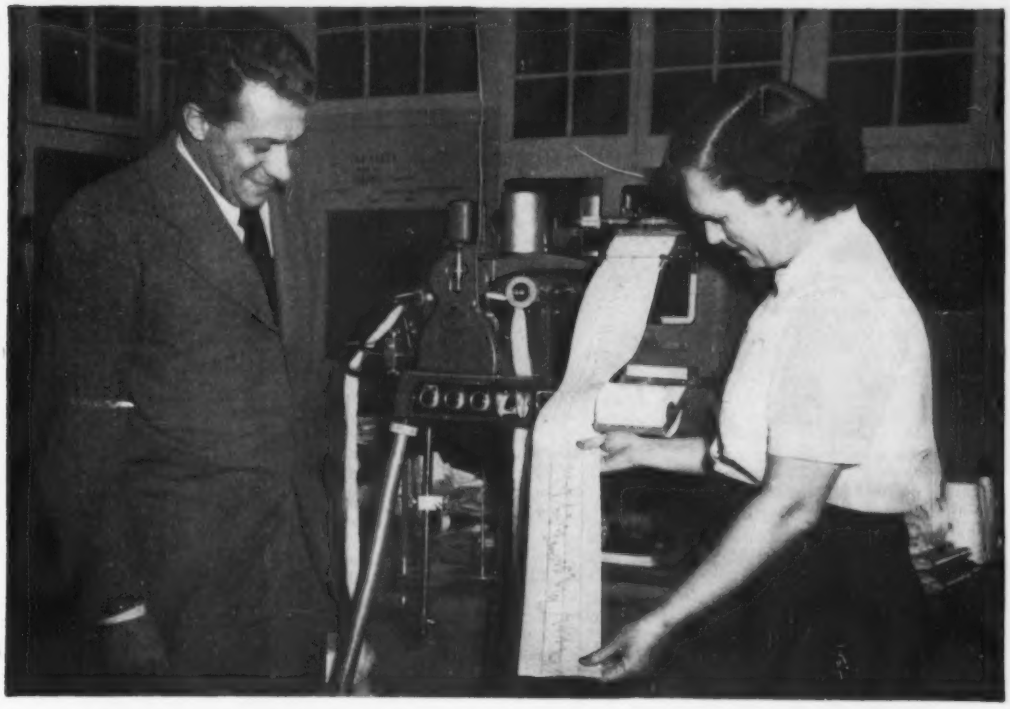
Whether the incentive is financial or non-financial, men will strive to do better with the proper encouragement and recognition. The man on the machine is usually best equipped to find the one best method. Frequently, encouragement and appreciation, plus the proper financial return, will bring it out.

6 Handle complaints promptly

Any complaint that a worker has is a major complaint as far as he himself is concerned. Many a supervisor has learned, to his sorrow, that what he thought was a trifle turned out to be a major issue because he didn't take the time to handle it in the early stages. Hundreds of grievances in industry go all the way to the top level of management because some departmental supervisor failed to give a definite "yes" or "no" in the beginning. In handling complaints, be sure to get the facts. Study the problem from all angles and give a definite answer in a reasonable period of time.

Most supervisors will agree that at least 80% of the problems that arise in industry are primarily human problems. An intelligent handling of human resources should go a long way toward decreasing our problems involving people.

G-E PHOTOELECTRIC RECORDER CHOSEN FOR NEW "PACIFIC EVENNESS TESTER"



"The sustained accuracy, fast response, and high sensitivity of the G-E photoelectric recorder make it especially suitable for use with our Pacific Evenness Tester."

Mr. R. C. Wilkie (shown above), Manager
Engineering Research Department
Pacific Mills Worsted Division

The new Pacific Evenness Tester, a tremendous step forward in the field of textile quality control, measures the evenness and weight of textile strands. In keeping with the new methods of modern textile manufacture, extremely accurate control of evenness and weight is mandatory if defective cloth and twisted yarn are to be eliminated.

The G-E photoelectric recorder, an important component of the Pacific Evenness Tester, provides an accurate, easily evaluated record of the evenness of the strands under test. Designer R. C. Wilkie reports that a .002-inch deviation in strand thickness can represent full-scale deflection of the recorder. This inherent sensitivity of the recorder, plus its accuracy and high-speed response, have helped to make the Pacific Evenness Tester a real precision instrument.

This is only one of the many ways in which G-E photoelectric recorders are now being used wherever precision testing is done.

Remember: where high sensitivity (up to 1 μ full scale) or fast response ($\frac{1}{5}$ second for full-scale deflection) are required, the G-E photoelectric recorder can do the job.

Bulletin GEC-254 contains complete information. Contact your nearest G-E sales office or write directly to the Apparatus Department, General Electric Co., Schenectady 5, N. Y.

GENERAL ELECTRIC

603-194B

Kinks AND SHORT-CUTS

We Made a Temporary Air-Changing System

We devised a home-made "washed-air" system for humidifying and changing the air in one of our weave rooms. After making a few mistakes and correcting them, we obtained fairly stable conditions of 80% relative humidity and 85° F. temperature.

To begin with, our weave room was equipped only with spray humidifiers. They maintained humidity at about 90%. However, we had no ventilation in the room; our windows were closed with glass blocks. Temperature went to more than 100°, creating very undesirable working conditions.

Our first move was to install four 15-hp. exhaust fans. Ventilation was provided by these fans, and room temperature dropped to about 85° F. But we were losing our humidity. When outside humidity was low, we couldn't get over 80% r.h. in the weave room.

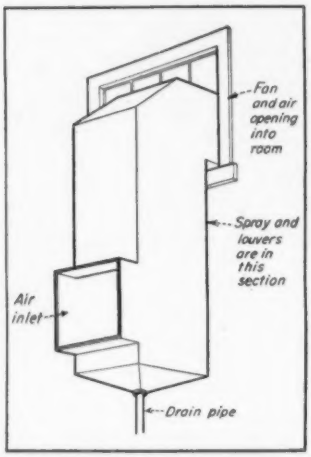
Here's how we corrected our trouble.

First, we reversed the fans. We pushed air into the room instead of pulling it out of the room.

Second, we installed an "air washer" in the fan duct to bring the air up to the proper humidity before it entered the room.

The washer is only four water atomizers that spray a mist of water in the duct. Air drawn through the duct by the fan must pass through the mist. When the air enters the room, it has at least 80% r.h.

Working conditions are much better now, and weave-room humidity can be maintained. We've ordered a modern evaporative cooling and humidifying system for the room, but our home-made system is a big help until we get our modern installation. *E. Quintero, Bauta, Cuba.*



***THIS HOME-MADE AIR-CHANGING** and humidifying unit holds weave-room temperature down and blows in air containing 80% relative humidity.*

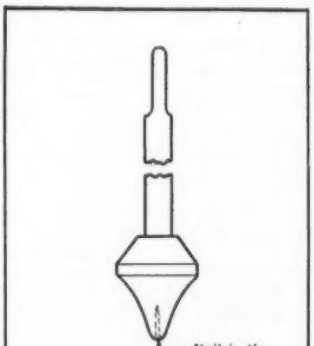
Roving-Skewer Tip Has a Nail Point

Roving skewers wear on the tip of the head end, where the tip runs in the skewer cup embedded in the creelboard. Also, the tips are misused by frame tenders and spinners. If a skewer turns too easily, the tender may brad the tip to cause more friction in turning; if it doesn't turn easily enough, the tender may sharpen the tip with a knife.

A good way to correct these faults is to load the skewer tip with a piece of wire nail.

The best way to insert the nail is to place the skewer in a vise with the head end up. Flatten the tip with a fine file, and make a small hole in the center of the flattened tip with an awl or sharp punch. Drive a small nail about ¼ or ⅜ in. into the skewer tip at the point where the hole was made. Then cut the nail off even.

The nail will reduce skewer wear and will help maintain more even pull.



***A ROVING SKEWER** loaded at the tip with a small wire nail will wear less and will keep a more uniform pull on the roving running in the creel.*

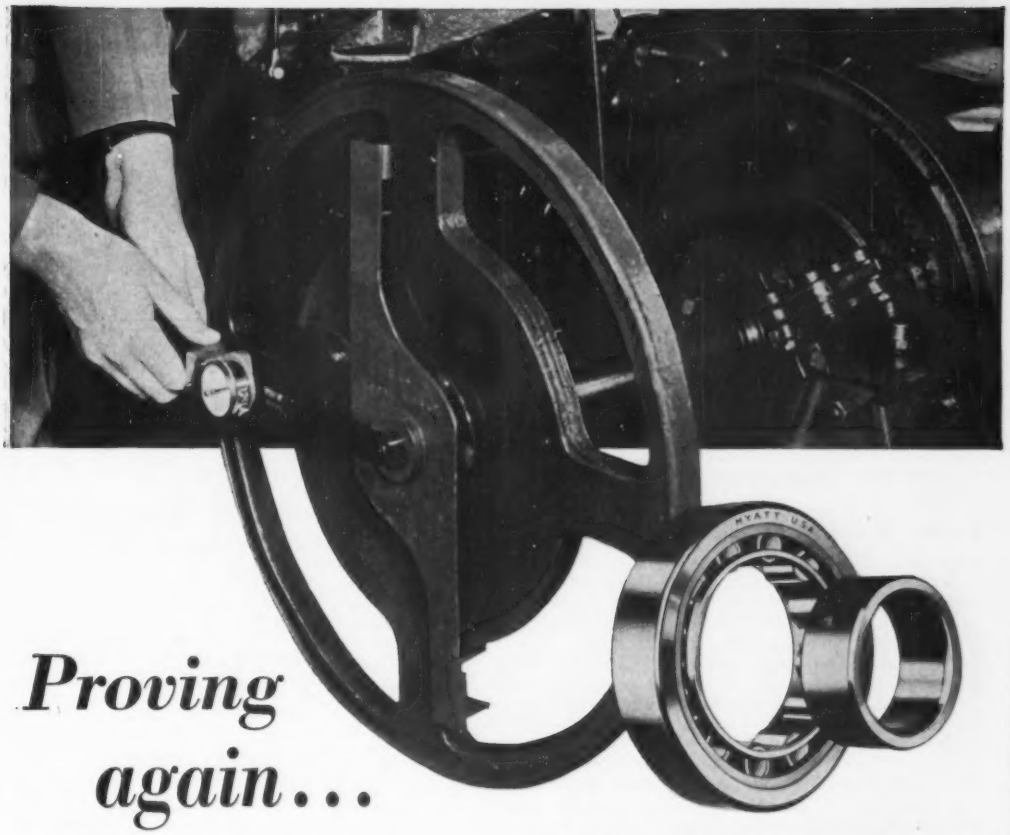
False Tape Selvage Makes Weaving Easier

A regular tape selvage on a silk fabric requires from two to four extra shafts. The yarn is run from spools.

On many of our constructions, we save a lot of trouble by weaving a false tape edge instead of the regular tape edge. In this way, we don't have to use the extra shafts and the spools. In appearance, the two types of selvage are almost identical.

To eliminate the shafts and spools, we start at the drawing-in operation. For example, if the entry for the tape selvage calls for twelve dents with three ends of three-ply yarn, we enter one end of six-ply and one end of three-ply yarn. This entry gives us two yarns that equal nine plies instead of the regular three yarns with nine plies. Total plies in the twelve dents is 108.

With the selvage entered as part of the warp, we don't have to worry with the spools and extra shafts.



Proving again...

"It's easier with HYATTS"

Two groups of identical looms, one equipped with Hyatts, the other plain bearings, were used for a test to determine the difference in effort required to turn them over with the hand wheel.

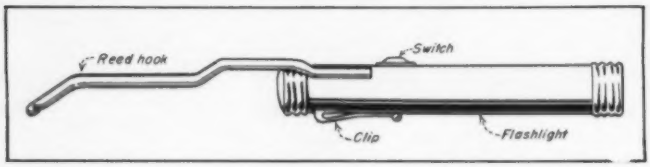
A standard dial indicating type of torque wrench attached to the loom crankshaft, was used to record the effort or torque in inch pounds to turn the loom over. More than nine hundred readings were taken to arrive at the results, which clearly show that only one-half as much effort is required to turn over Hyatt-equipped looms by hand.

This means that it's easier for the weaver—less fatigue—less danger of injury—the pick-out operation more quickly completed. Women weavers particularly appreciate Hyatt-equipped looms.

Make sure that your new looms have Hyatt Roller Bearings throughout for increased production and improved quality with less effort. Hyatt Bearings Division, General Motors Corporation, Harrison, New Jersey.

HYATT ROLLER BEARINGS

Weaver's Reed Hook Soldered to Flashlight



A REED HOOK soldered to a small flashlight solved one weaver's light problem in making warp repairs.

Shadows and dark spots often prevent proper drawing-in of broken warp ends on a loom. This trouble was overcome by one weaver with a small fountain-pen-type flashlight.

The flat drawing-in hook was soldered to the end of the flashlight. A slight bend in the hook brought the eye in the end of the hook into the light beam. A slide switch on the side of the flashlight enabled the weaver to flash on the light when it was needed to see the broken warp ends and the spaces to draw them in. A clip on the end of the flashlight furnished a convenient way of fastening the light and hook to the weaver's pocket.

Rubber Grommet Protects Hose on Machine

On some machines, a rubber hose is used for a particular purpose. One example is the suction hose that picks up loose filling threads on the C&K S-6 loom. The hose runs through a hole in the loom side to the vacuum jar.

Usually, some protection against vibration is provided. In the case of the S-6 thread remover, a coil spring is wound around the hose to keep it out of contact with the loom side.

In time, the high humidity in the weave room causes the spring to rust, and friction between the spring and loom side sometimes causes rust to drop onto the warp. The result may be a rust stain or stains on the cloth.

On certain other machines, a rubber hose could be considerably shortened if it were led through a hole in a casting.

Wherever a hose does pass through a machine part, an excellent way to protect it against vibration is to use a rubber grommet that fits snugly into the hole drilled through the casting.

In most cases, a grommet can be made from a short length of thin-wall rubber hose. Cut a piece of the hose the right length, split it, and slip it over the hose to be protected. Work the grommet into the hole in the casting.

Dye-Lot Record Eases Control Problem

DYE LOT CONTROL CARD

Dye Lot No.	Color	No. Pcs.	Style of Goods	Dye Order No.	Date Rec'd	Date Dyed	Date Ship'd	Remarks

Customer:

RECORDS OF DYE LOTS are kept on cards like this one in one tubular-knit-goods dye room. The card shows at a glance the status of any dye lot in the plant.

In our tubular-knit-goods dye room, we had a problem in keeping up with the different dye lots. We needed to be able to tell at a glance how many dye lots we had in the room as well as the processing details of each lot we had on hand.

We devised the accompanying dye-lot control sheet, and we have found it to be very useful.

Here's how we use it.

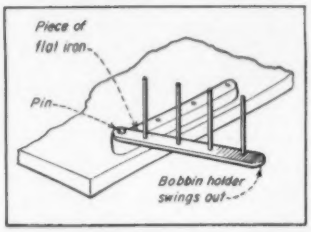
When a batch of goods arrives in the dye room, we make it up into dye lots. The first six columns on the card are filled in. They give (1) the dye-lot number, (2) the color the goods are to be dyed, (3) the number of pieces in the lot, (4) the style of goods, (5) the dye-order number, and (6) the date the goods were received.

When the lot is dyed, the seventh column—Date Dyed—is filled in. Then when the goods are shipped, the eighth column is filled in and a line is drawn through the entries in all eight columns.

This method makes it quite easy to keep track of just where each lot is in processing.

When a card is filled up, we transfer the incompleted lots to a new card. The old card is filed for a record of completed orders. Bernard Morley, *Catasauqua, Pa.*

Laboratory Hand Reel Has Swinging Spindles



OUR YARN REEL has a swing plate with spindles on it for holding yarn while it is reeled for sizing. The plate swings out, away from the yarn guides, so that putting bobbins of yarn on and taking them off is easier. We've found this little attachment quite a convenience. J. B. Boyter, Fitzgerald, Ga.

Groove on Shaft Catches Excess Oil

Sometimes a shaft running in a plain bearing slings off a fine spray of oil at the end of the shaft.

In many cases, oil spraying can be stopped by a groove cut around the shaft. The groove should be ⅛ in. wide and ⅛ in. deep. The side of the groove toward the shaft end should be cut straight down. The side toward the bearing should be tapered and should begin right at the end of the bearing.

When oil works out between the bearing and shaft, it flows down the tapered side of the slot.

A container of some kind may be set under the shaft groove to catch oil that drips off. W. E. Warner, *Essex, England.*

ERIEZ MAGNETIC ATTRACTIONS

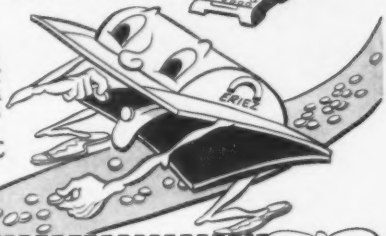
ERIEZ MANUFACTURING CO., ERIE, PA., U.S.A. • PRODUCERS OF MAGNETIC SEPARATORS AND SELLERS OF (RCA) ELECTRONIC METAL DETECTORS

RUBBER GLOVE MAKERS... WERE PLAGUED WITH SMALL HOLES IN THEIR PRODUCT. CAUSE: **TRAMP IRON** SPECKS IN THE LIQUID LATEX RUBBER. REMEDY: AN **ERIEZ** STAINLESS STEEL-BODIED MAGNETIC TRAP IN THE PROCESSING PIPELINE. IRON PASSAGE WAS CHECKED ENTIRELY. WORKS, TOO, IN FOOD LINES OR IN ANY LIQUID FLOW LINE.

PRODUCTION INCREASED 1200% ON ONE OPERATION AT L.C. SMITH AND CORONA TYPEWRITERS, INC. .....

...WHEN **ERIEZ** PERMANENT MAGNETIC PULLEYS WERE PUT IN BELT CONVEYOR LINES TO SEPARATE METAL PARTS FROM TUMBLING STONES. NEW **ERIEZ** ALNICO V **ATOM** MAGNET PULLEYS ARE THE STRONGEST KNOWN!

FOR SORTING PENNIES... WHITE (STEEL) ONES FROM COPPER....U.S. MINTS IN PHILADELPHIA AND SAN FRANCISCO CHOSE POWERFUL **ERIEZ** MAGNETIC SEPARATORS. **ERIEZ** NEW PERMANENT PLATE MAGNETS ....KNOWN AS **ATOM** AGNETS.....SEPARATE ALMOST ANY MAGNETIC FROM NON-MAGNETIC MATERIAL.



METAL IN CORN FLAKES... CAN BE TOUGH ON TEETH AND STOMACH. TO KEEP ALL METAL OUT OF ITS CEREAL PRODUCTS, *GENERAL MILLS* USES THE R.C.A. ELECTRONIC METAL DETECTOR, SOLD BY **ERIEZ**. IT WARNS AGAINST ANY METAL AS SMALL AS .039" IN DIAMETER!

RETURN THIS COUPON.

ERIEZ MANUFACTURING COMPANY
501 EAST 12TH STREET, ERIE, PA.

MY CONTAMINATION OR SEPARATION PROBLEM IS:

_____

_____

PLEASE SEND LITERATURE ☐

HAVE REPRESENTATIVE CALL ☐ PROMPTLY ☐ WHEN IN AREA

NAME _____

TITLE _____

COMPANY NAME _____

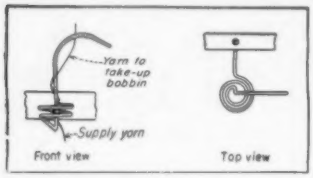
STREET _____

CITY _____ ZONE ___ STATE _____

-1B

Kinks AND SHORT-CUTS

Two-Coil Wire for Nylon Throwing



***NYLON THROWSTERS** can use this tension wire to excellent advantage. The two left-hand coils in the wire tend to hold the filaments of the raw yarn (which has ½ t.p.i. Z twist) together.*

I have a tension-control wire that has given excellent results for a number of years. I am now using 1,100 of them in the throwing department of our full-fashioned hosiery mill with great success.

We use them in winding raw stock and also in redrawing nylon yarn from size tubes to mill bobbins after the yarn is sized with PM-90 size. In all cases, the wires are doing a swell job.

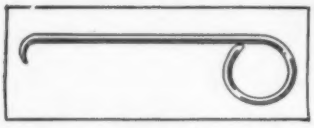
As shown in the illustration, the wire has two left-hand coils. One end of the wire is fastened in a bar mounted to the winder. The other end extends vertically from the coils and is turned over to the right in a hook about two-thirds the size of the hook on a coat hanger.

A wire is needed for each yarn end wound on the machine. They may be mounted in a single bar the length of the machine, or the bar may be in sections. The bar (about ⅜x⅜ in.) is mounted to the machine on brackets, placed so that the bar is 5 in. below the traverse rail and 2 in. in front of the rail. The tension wires are placed directly in front of the centers of the take-up bobbins.

The winder operator wraps the yarn around the wire once or twice for 15-den. yarn, two or three times for 20 to 40-den., and three or four times for 50 to 70-den. The yarn is wound so that it leaves the back side of the hook as it travels toward the bobbin.

The left-hand coil of the wire tends to hold the yarn filaments together, since the raw yarn has a half turn of Z twist. *Fred Tolson, Morgantown, N. C.*

Travelers Put On With Magnetic Hook



***A MAGNETIC HOOK** used in putting on spinning travelers cuts down the number of travelers dropped and lost.*

A wire hook is usually used in putting new travelers on spinning rings. The operator holds a number of travelers in his left hand and picks up one traveler at a time on the hook held in the right hand. The traveler is then snapped over the ring flange. Travelers frequently slip from the hook and are lost. The waste of travelers from this cause is considerable.

A hardened steel-wire hook that has been magnetized is said to reduce this loss of travelers. The magnetism in the hook is sufficient to hold the steel traveler on the hook.

Mild steel wire is bent into the shape desired and hardened by being heated red hot and dropped into water. Hardening is necessary because soft steel will not retain the magnetism.

The hardened hook may be magnetized by drawing it repeatedly across the poles of a bar or horseshoe magnet. The mill electrician can easily magnetize the hook by drawing it across the field cores of a direct-current motor or by placing it in contact with an electromagnetic relay switch.

Jars for Small Parts

A good way to keep small machine parts, screws, cotter pins, etc., in a handy place but out of the way is to use screw-top jars. Nail or screw the tops to the underside of a shelf, place the parts in the jars, and screw the jars onto the anchored lids.

$200 for Best Kink in 1951
$25 for Best Kink Each Month
In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $200 check for the best kink of the year or the $25 check for the best kink of the month, maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you can send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men. In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

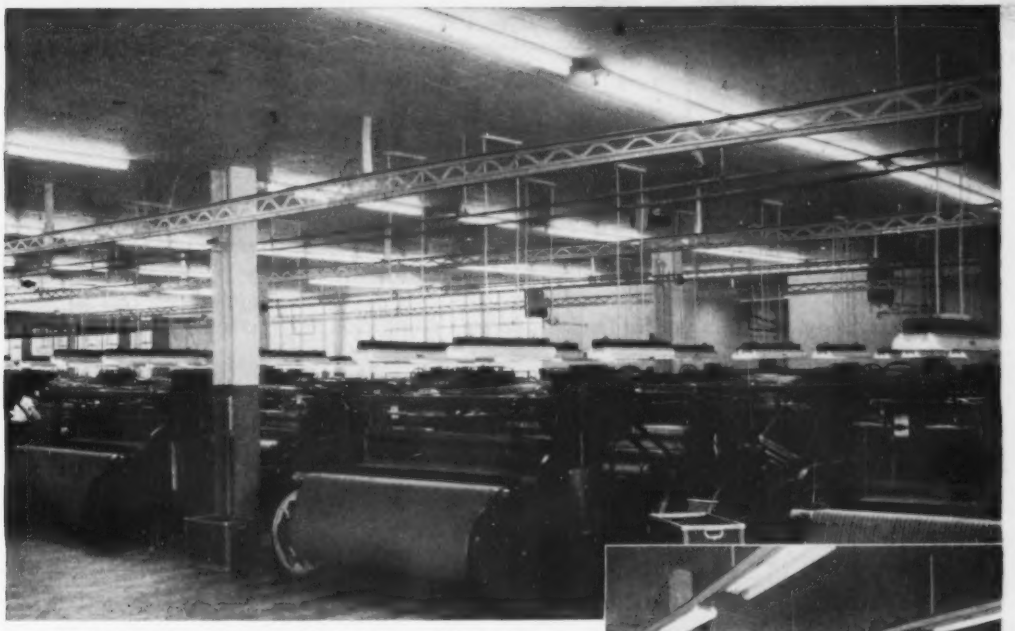
1. No limit to number of entries.
2. New $25 prize contest every month, $200 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1951.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to whichever address you prefer:

TECHNICAL EDITOR, TEXTILE WORLD
330 W. 42nd St., New York 18, N. Y.

SOUTHERN EDITOR, TEXTILE WORLD
367 Ridgewood Ave., Charlotte, N. C.

NEW ENGLAND EDITOR, TEXTILE WORLD
P. O. Box 305, Salem, Mass.



AMCO Humidification System in weave room of Broad Brook Company, Broad Brook, Conn.

Control regain and assure a *BETTER WOOL PRODUCT ...INCREASED PROFITS!*

You may be losing more than you think if yours is a "dry-air" mill.

Total weight, after all, is dry wool plus moisture. So when moisture in the air is abnormally low, moisture from the wool evaporates into the air — at the expense of the wool you are processing. Is it any wonder that profits begin to dry up when the air dries out?

AMCO Humidification keeps the air, your biggest single asset, "liquid". It governs surrender of regain; assures better control of weights and yarn counts; reduces fly; improves end products by preserving flexibility, resiliency and pliability. And very important . . . that perennial trouble-maker, static electricity, is effectively routed. All good reasons why it will pay you to consult a trained and experienced AMCO engineer without delay.

Should you already have a modern, efficient humidification system and seek to add *cooling*, AMCO can help you with that job, too. Whether you propose installing a ductless system, a unit duct, or a central station air conditioning system, AMCO can tailor-make an installation to fit your specific needs.

AMCO system in spinning room of same mill

Benefits of controlled humidification

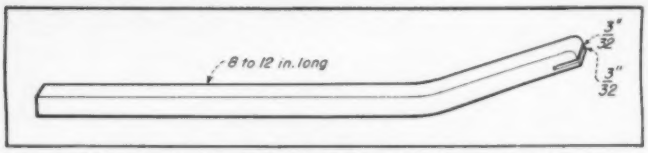
- Elimination of static electricity
- Higher yarn yields
- Less fly waste
- Oil savings through decrease in employed emulsions
- Greater spinning, dressing and weaving efficiency due to retention of moisture in yarn
- More flexibility, resiliency and pliability of yarn
- Better control of cloth weights.

AMCO

HUMIDIFICATION AND COOLING

AMERICAN MOISTENING CO., AFFILIATED WITH GRINNELL COMPANY, INC., PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

Shuttle-Spring Tool Made of ½-in. Key Steel



SHUTTLE SPRINGS can be set quickly and easily with this home-made tool. Just place the shuttle in a vise and slide the tool on the end of the spring. Twist the tool handle up or down as needed for adjusting the spring. I made the tool from ½-in.-square key steel. As shown in the sketch, a 3/32-in. slot is cut 3/32 in. from the lower side of the tool. Over-all length of the tool may be 8 to 12 in. Clifford D. Beck, Sylacauga, Ala.

Are There Any Advantages to This Proposed "Kink"?

Why not centralize slub catchers and suction air cleaners on winders?

If three, five, seven, or any other number of slub catchers were placed in line an inch or two from each other, air suction strong enough to remove any foreign matter knocked off the yarn could be focused on the catchers.

Of course, the most apparent disadvantage would be the angle at which the yarn would have to run from the supply bobbin to the take-up cone. Only the center end in each group would wind in a straight line. The end on each side of it would come in to the slub catcher at an angle and leave the catcher at another angle; from bobbin to cone, the yarn would travel in an obtuse angle. The angle would naturally grow more acute as the number of ends centralized was increased.

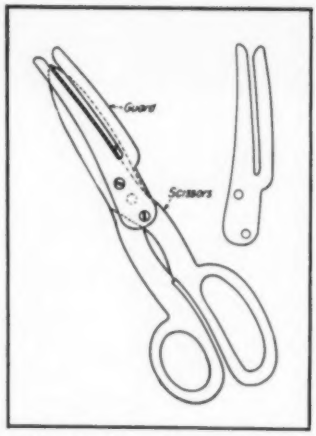
What do you think of this reader's proposal?—EDITOR

Waste in Front Box Reduces Jerk-Ins

Jerked-in filling can be lessened on Draper looms by applying the following kink to the Stafford thread cutter.

Drill a hole in the front box just to the right of the opening for the Stafford thread cutter. Pack the hole with waste, and let the waste extend ¼ in. on the inside of the box. The waste will hold the filling in place for the thread cutter to pick it up.

We Use Metal Guards To Guide Our Scissors



A WELT GUARD on scissors protects the welt at the top of a sock from being cut when socks are separated from each other with scissors.

We knit men's work socks with a welt at the top of the cuff. When the socks are cut loose from each other, they are supposed to be cut between the cuff welt of one and the toe of the next one without cutting the welt.

We've always had trouble with the operators cutting into the welts when they used ordinary scissors. I devised a welt guard for the scissors that protects the welt. Its use has eliminated our cut welts.

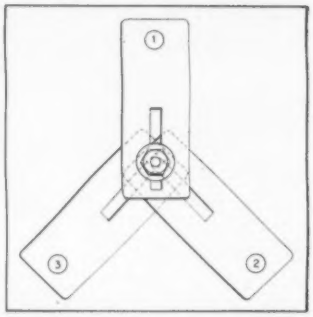
The guard is shown in the accompanying sketch. It is made of mild steel ⅛ in. thick. It is fastened to one blade of the scissors, with the slot in the guard fitting directly over the cutting edges of the scissor blades. When the scissors are opened, the guard remains stationary on the blade to which it is fastened.

When a sock is to be cut, the operator slides the sock into the guard slot, with the welt against the outside of the guard. When the cut is made, a little more than ⅛ in. of knitted sock is left above the welt.

The guard slot must be narrow enough not to slide over the welt. We make the slots in our guards ⅛ in. wide.

We place the guard on the right-hand side or left-hand side of the scissors, depending on whether the operator is right- or left-handed. James Levoie, Ontario, Canada.

Three-Plate Template For Aligning a Spindle



ALIGNING THE BOLSTER AND STEP of a spindle on a fly frame is easy with this template.

Each of the above three plates is 6x3 in. They are made of flat steel stock, such as a rail casing on a fly frame. The slots in one end are 3 in. long; the holes in the other end are drilled to fit the groove around a spindle.

The handy template is set as follows: Remove the flyers from three spindles—two on the front line and one on the back line. Place the holes numbered 1, 2, and 3 over the empty spindles, and tighten the center bolt on the template.

The template, now rigidly set, is placed over the spindle that is to be aligned and over two adjacent spindles. S. Blackshaw, Montreal, Canada.

Pallet Stacking Increases Storage Room

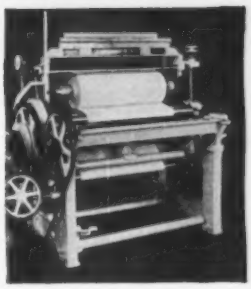
STORAGE SPACE for cloth rolls and bales was tripled at American Finishing Co., Memphis, Tenn., by the adoption of pallet stacking. Up to 54 rolls are stored in the same space where 15 were formerly stored. The use of a lift truck for moving and stacking reduces labor cost as much as 95%. W. C. Bryan, Cleveland, Ohio.

New Camachines®

of all types, installed in the first six months of 1950, added more than 105,000 feet per minute (web speed) to industry's potential roll production capacity.

Constantly expanding *Camachine* volume reflects the increasing need for top-quality roll products in the paper, printing, plastics, textile and rubber industries.

Wherever materials are produced or converted in roll form, *Camachines* may be depended upon to provide trouble-free slitting and winding at record-breaking roll production speeds. There's a reason for *Camachine's* unquestioned leadership . . . for 57 years Camachine engineers have specialized in the design and manufacture of faster, more dependable roll production equipment. *Camachines* raise the standards for roll quality, increase the pace of roll production, reduce the cost of the roll product.



Get the facts on Camachine 6 —a fast slitter-rewinder for top quality rolls of binding tapes, felts, burlaps, coated fabrics, etc. Write for complete information.

105,000 feet per minute!*

*This figure is a composite of the web speeds of *Camachines* both *large and small* installed during the first half of 1950.

Cameron Machine Company • 61 Poplar Street • Brooklyn 2, N. Y.

Camachine engineers will be pleased to consult with you on any roll production problem.

Kinks AND SHORT-CUTS

Home-made Cutter Makes Bands From Belts

Here is a way to make round leather bands out of discarded flat leather belts.

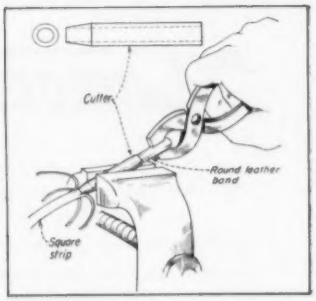
Get a piece of tool steel, and drill a hole lengthwise through the center to about the diameter desired for the leather bands. Grind one end of the piece off so that it tapers down to the hole drilled through the center. This tapered end is to be the cutting end of the tool.

Now sharpen the tapered end inside (with a pencil-type oilstone) and outside until the cutting edge is sharp.

Place the cutter in a vise and tighten the vise. Cut the flat belt into square strips, and trim down one end of each strip so that it can be passed through the cutter (from the cutting end).

Catch the end of the strip with a pair of pliers or tongs, and pull the strip through the cutter.

The band made in this way may have small flat sides. If they are objectionable, the ends of the band may be joined and the band placed on pulleys to run. While the band runs, hold a piece of emery cloth to the band. The flat sides will be worked off, and the surface of the band will be polished to some extent by the abrasive action of the emery cloth. *John E. Hyler, Peoria, Ill.*



***ROUND LEATHER BANDS** can be made from flat leather belts with the cutting tool shown here. The belt is cut into square strips and the strips pulled through the cutter.*

Fly-Frame Carriage Checked for Hesitation

Here is a way to insure free running of the carriage of a fly frame. Nearly every card room can reduce somewhat the power consumed by fly-frame spindles and also guard against some types of trouble by checking their fly frames according to this method.

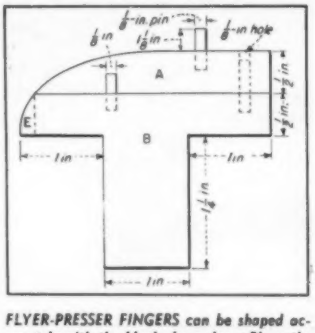
When a frame is doffed and started up, the carriage may hesitate (or in extreme cases may even stop) during its first downward stroke. The cause is usually spindles out of line or gummed and dirty spindle bolsters.

Stop the frame when the carriage is at its lowest point of the traverse. With a bar, raise the end of the top cone and move the builder dog backward one-half turn. The twin gears will then be out of mesh with the pinion, and the carriage can be raised by hand. With the carriage raised, check the spindles for stuck bolsters.

If all the spindles are free in the bolsters, the alignment of the steps and bolsters should be checked. Corrections can be made at the samsons by adjusting the slide arms.

Remember, the necessary step in this procedure is to stop the frame with the carriage at its lowest point and raise the carriage by hand. *William Shaw, Providence, R. I.*

Flying Pressers Shaped With Block



***FLYER-PRESSER FINGERS** can be shaped accurately with the block shown here. Place the roving eye of the finger over the ⅛-in. pin, and press or tap the end of the finger anchored to the flyer down over the curved end of the block. Holder B can be held in a vise while block A is used.*

The shape and position of the presser arm and paddle on a roving-frame flyer must be correct to maintain uniform tension and to lay the roving properly as it is being wound on the bobbin. Attempts to make these adjustments with the flyer on the frame are seldom satisfactory. The results are variations in lay and tension and poor running work.

A shaping block similar to the one shown in the drawing has proved useful in obtaining correct adjustments. At scouring periods when all the flyers are removed from the frame, the pressers can be straightened and shaped without the presser's being removed from the flyers.

Block A is removable from the holding anvil. The shape of this block and the position of the ⅛-in. pin for the center hole in the flyer paddle will vary with different-size flyers.

Block A may be made of brass or hardwood. It is shaped to give the correct curve to the presser. Three pins in the anvil—one on each side and one in the end of the block—hold the block in place.

To adjust a presser paddle, the eye of the paddle is placed over the pin in the center of block A. A small rawhide or lead hammer is used to tap the presser against the curve of the block until the lug on the lower end of the presser is in contact with the end of the anvil. If the thickness of the lug against the anvil prevents proper shaping of the presser foot, the end of the anvil may be cut off as shown by the dotted line E in the drawing.

Best-Kink Award For December

Each month TEXTILE WORLD awards $25 to the submitter of the kink which is judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of kinks appears each month, and a new group of readers acts as judges each month.

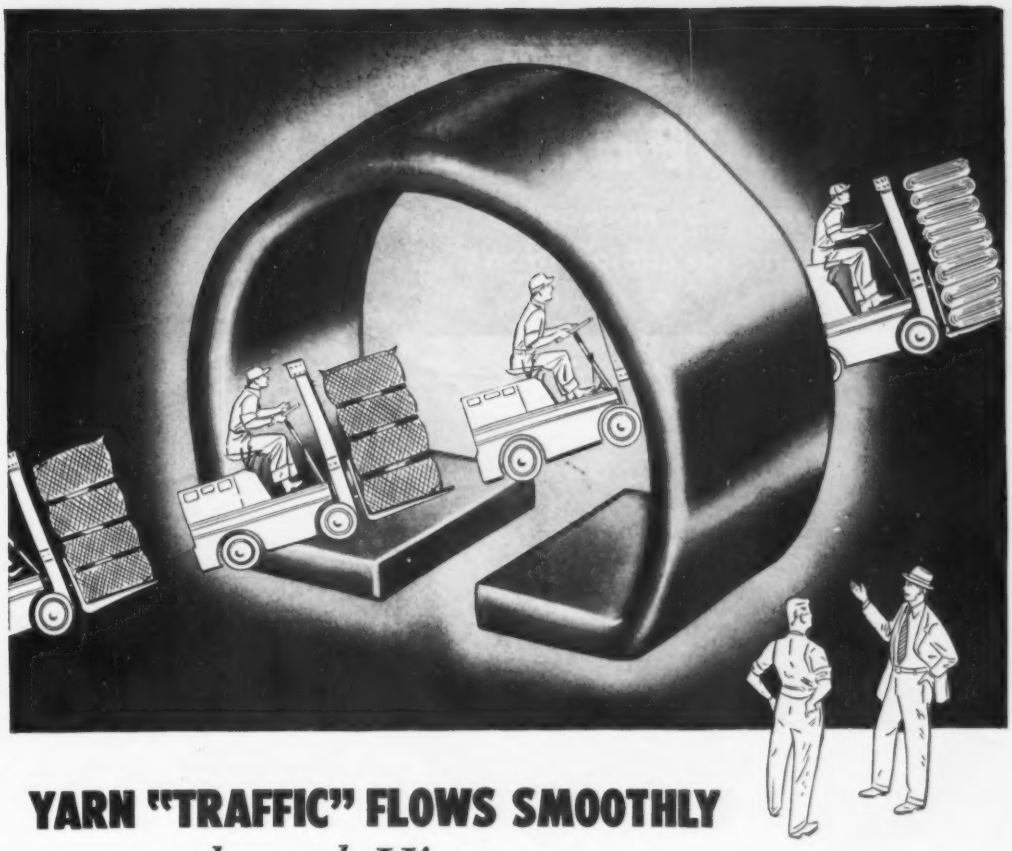
If you are asked to judge one of these days, be sure to help select the best kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the kink appears.

The best kink for December, according to TEXTILE WORLD reader-judges, was:

"I Remove 'Frozen' Keys With a Threaded Rod"

By W. E. Warner
Essex, England

Mr. Warner is being sent a check for $25 with the compliments of TEXTILE WORLD.



YARN "TRAFFIC" FLOWS SMOOTHLY

. . . *through Victors*

SINCE MOST MILLS' entire output passes through travelers — whether yarn traffic is speeded or stalled depends on your selection.

Which are your travelers — bottlenecks or broad highways? Assuming equipment is in proper condition, if the traveler is **wrong**, the flow of work through the mill will be slowed up at the spinning or twisting, production will lag, quality will suffer, and profits will sag. If the traveler is **right**, you can meet output schedules, cut down waste, and upgrade quality.

With the many new developments in synthetics and blends, it is becoming more and more difficult to be sure the traveler you use is **right** for the job. To save valuable time in setting up the smooth-running spinning and twisting you want, you need up-to-the-minute information.

There's a man near you who knows what you want to know about choosing travelers. He's the Victor Service Engineer and his job is to keep abreast of every new development. He will help you select the **right** traveler for any fiber, any blend you may be running. Write, wire, or phone the nearest Victor office for prompt service.

Keep a Step ahead with

VICTOR J Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . . 20 Mathewson St. . . . . Tel. Dexter 1-0737

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1 SALES APPEAL

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5 Low cost

Visit Our Booth at the A.M.A. National Packaging Exposition, Public Auditorium, Atlantic City, April 17-20, 1951.

SYLVANIA® CELLOPHANE

Sylvania is always ready to help you solve your packaging problems. Discuss them with your Sylvania representative or write us mentioning the specific application in which you are interested. Address: Market Development, Dept. TW-2.

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Reader Service

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New Dyes & Chemicals
New Useful Accessories
Editorial Articles
and the Advertisements

WRITE ON THIS CARD

. . . to send a Kink, a letter for Round Table, or a news note

. . . to comment on anything appearing in this issue

. . . to query the editors about any manuscripts you might wish to submit to them

. . . to send an inquiry to the Question & Answers department

. . . to request further information on equipment described in this issue.

Cards require no postage . . . but be sure to give your name, title, mill connection, and address (particularly essential in the case of the bottom card).

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. . . to request copies of trade literature described on the next and following pages or to get more information on useful accessories described at the end of the Textile Equipment News section

WRITE PAGE NUMBERS

. . . to get more information on any piece of equipment described in the Textile Equipment News section. If more than one item appears on the page, see the table of contents on page 3 to obtain an identifying letter which also must be included

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Dear Editor — FEBRUARY, 1951

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NEW EQUIPMENT on page (give page number and identifying letter which can be obtained from the table of contents on page 3).....

.....

ADDITIONAL INFORMATION ABOUT THE ARTICLES ON PAGES:.....

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ADDITIONAL INFORMATION ABOUT THE ADVERTISEMENTS ON PAGES:.....

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This Card Expires April 30, 1951

Outstanding TRADE LITERATURE
Free for the Asking

NO REPEATS . . . Listed here for February are current bulletins reviewed by the editors of TEXTILE WORLD. To get the ones you need, circle the number on the Reader-Service card, as described on the preceding page.

PROCESS EQUIPMENT

The new Holdsworth gill reducer is featured in a bulletin published by Holdsworth Gill Screw Co., Inc. The new gill reducer is a high-speed unit that is a modern development of the Holdsworth intersecting gill. It has been especially designed for the abbreviated system of producing worsted yarns. **(F-1)**

The new Hermas brushing machine is featured in the Nov. issue of *The Clothroom Spotlight*, published by Hermas Machine Co. This machine has a separate motor for each of the eight brushing rolls. **(F-2)**

A new process for marking selvages is described in a booklet published by Milfa-Graph, Inc. The Milford-Astor machine may be used to print identification on the selvages of fabrics, ranging from the sheerest voiles to the heaviest suitings. **(F-3)**

A thread-friction testing device is described in a brochure issued by Air Engineering Co. The instrument can be set up to measure tension in grams at any desired yarn-withdrawal speed from shuttles or yarn packages. **(F-4)**

A guide for figuring Texrope V-belt drives has been published by Allis-Chalmers Mfg. Co. The guide describes the procedure to follow in selecting correct belts and sheaves for any given drive. **(F-5)**

An all-metal heddle frame is described in a bulletin issued by H. J. Theiler Corp. The frame has non-metal protecting surfaces on the light-metal supporting staves and side supports. It also has strong, metal-corner connecting pieces. **(F-6)**

Fork extensions for handling loads longer than those ordinarily carried on the regular forks of a lift truck are described in a new accessory data sheet published by Towmotor Corp. The extensions may be quickly attached or removed. **(F-7)**

Flat transmission belting is described in a technical bulletin published by Thermoid Co. The bulletin contains complete formulas, charts, and tables for the proper selection of Thermoid transmission belting. **(F-8)**

Rubber mounting pads are featured in a catalog published by the B. F. Goodrich Co. Vibropad rubber mountings are 12 in. square. They are sold in packages which also contain rubber tubes and snubbers, from which individual mountings may be fashioned. The packages contain written directions on application procedures. **(F-9)**

Materials-handling equipment is described in a 24-p. catalog issued by the Rapids-Standard Co., Inc. The catalog features application tips, construction features, and specification charts to be used for reference in solving materials-handling problems. Rapistan material-flow equipment is also described. **(F-10)**

Two- and four-wheel trucks are featured in a brochure published by Lewis-Shepard Products, Inc. Trucks for warehousing and special needs are described. **(F-11)**

Factory-packaged chains and parts are described in a folder published by Morse Chain Co. The Morse packaged units contain specified lengths of roller chains and standard quantities of parts. **(F-12)**

Textile tapes are featured in a 16-p. booklet published by Minnesota Mining & Mfg. Co. The booklet describes 14 *major uses for Scotch textile tapes in the textile industry. Uses* range from holding ends of warp threads to sealing and packaging finished goods. **(F-13)**

An automatic dry-type air filter is described in a brochure issued by American Air Filter Co., Inc. The filter, known as the Auto-Airmat, is automatically self-cleaning. It was developed primarily for textile mills. **(F-14)**

A label- and ticket-marking machine, the Tickopres, is described in a folder issued by Markem Machine Co. The Tickopres will print tickets, tags, or labels in a variety of sizes. It is said to be very simple to operate. **(F-15)**

A wire-rope electric hoist is described in a folder published by Robbins & Myers, Inc. The model-J hoist is suitable for all applications up to one ton. **(F-16)**

Materials-handling equipment is described in a catalog published by Indus-

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New York 18, N. Y.
McGraw-Hill Publishing Co., Inc.

trial Truck Div., Clark Equipment Co. The condensed catalog contains basic specifications on the entire line of materials-handling equipment manufactured by the firm. **(F-17)**

A new packaged power unit, called Link-Belt Motogear, is described in a 14-p. booklet published by Link-Belt Co. The unit consists of a compact, enclosed, helical-gear drive with a separate standard motor and flexible coupling. It is mounted on a single-welded steel base plate. **(F-18)**

Shipping-case packing and sealing methods are discussed in an 8-p. bulletin issued by Paisley Products, Inc. Described with the aid of illustrations are the advantages, application, composition, forms, properties, and sealing techniques of Paisley case-sealing adhesives for hand- or machine-sealing operations. **(F-19)**

Fork lift trucks are featured in a 6-p. bulletin prepared by Mobilift Corp. The bulletin features two new 2,000-lb. capacity Lev-R-Matic-drive fork lift trucks, one of which is a stand-up type and the other a sit-down type. **(F-20)**

SUPPLIES AND CHEMICALS

Nylonizing is discussed in a bulletin published by Hans C. Bick, Inc. The booklet describes the application, cost, and use of the Nylonizing process, which is a finishing treatment for nylon woven and knit fabrics. **(F-21)**

Dextrine and starch-product problems are discussed more easily with the aid of a questionnaire issued by Morningstar Nicol, Inc. This operation data sheet is useful for transmitting information to the Morningstar laboratory for accurate diagnosis of and recommendations for problems encountered in the use of dextrines and starches. **(F-22)**

Loom sheaves are featured in a bulletin issued by Wakefield Bearing Corp. The Wakefield sheaves are bushed with Woodex. The bulletin gives specifications for the full range of Wakefield loom sheaves. **(F-23)**

Glacial acetic acid is featured in bulletin published by Niacet Chemicals Div., U. S. Vanadium Corp. The bulletin presents the physical and chemical properties; latest specifications on the standard C. P. and U. S. P. grades; and shipping and handling information for this chemical. **(F-24)**

The production of caustic soda, chlorine, and hydrogen directly from salt and water by the Amroc small-unit plant is described in a booklet published by Amroc, Inc. These small-unit plants are now available in sizes as small as one with a 24-hr. output of only 420 lb. of 100% caustic soda, 372 lb. of chlorine, and 10 lb. of hydrogen. **(F-25)**

Air compressors are featured in a bulletin published by Ingersoll-Rand. The 16-p. illustrated booklet describes the different types of air compressors manufactured by the company and gives engineering and technical details for operation of the units. **(F-26)**

Sodium diacetate is featured in a bulletin published by Niacet Chemicals Div., U. S. Vanadium Corp. Sod'um diacetate, used for controlling alkalinity, is a free-flowing, convenient, readily available source of solid acetic acid or sodium acetate in granular form. **(F-27)**

CONTROL EQUIPMENT

Color and quality are featured in the November issue of *Parks' Parables,* published by Parks-Cramer Co. The issue tells about humidifying and conditioning equipment used in connection with package dyeing. **(F-28)**

Liquid-level controls for practically any liquid at any temperature and pressure are described in a bulletin published by Magnetrol Inc. Magnetrol units are designed for pressures from vacuum to 12,000 psi., temperatures up to 1,400° F., and specific gravities from 0.335 to 2.0 **(F-29)**

Thermometers, pressure gages, and temperature controllers are featured in a

"During the seven month period before using LUBRIPLATE No. 130AA in the bearings of our Kraft Mill Lime Kiln, we used a conventional oil of the density recommended. The cost of the lubricant for the period was $2,134.00. In the seven months that followed, we only used 128 lbs. of LUBRIPLATE No. 130AA for initial filling and replacement at the cost of $35.84. LUBRIPLATE No. 130AA only requires weekly applications whereas the former lubricant required daily application."

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NEW HERMAS MOTORIZED BRUSH

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"—All of which is conductive to long brush life and even brushing."

Hermas uses METLKORS in this new motorized brushing machine, as they have in other Hermas brushes, because of their superior performance.

The metal cores, of aluminum, cold drawn steel, stainless steel, copper, or bronze, cannot sag, split, or get out of alignment.

Bristle is wound on the cores by our patented refillable process, firmly held with flat metal wire, and sealed with special baked plastic cement.

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74 YEARS OF INDUSTRIAL BRUSH KNOW-HOW

Cedar Grove, Essex County, New Jersey

series of new catalogs published by Gotham Instruments, Div. of American Machine & Metals, Inc. The catalogs describe each of these instruments with the aid of photographs and diagrams. **(F-30)**

The electronic Moist-O-Graph for regain control on multi-cylinder rayon slashers is described in a data sheet issued by Brown Instruments Div., Minneapolis-Honeywell Regulator Co. It is available as a single-range instrument for mills that consistently produce a fabric from the same-type fiber, or as a multiple-range instrument suitable for almost any conceivable combination of fibers and sizes. **(F-31)**

Thermocouple-actuated Microsen temperature indicators and recorders are described in a brochure published by Manning, Maxwell & Moore, Inc. These instruments are capable of measuring temperature between —100° F. and +3,000° F. **(F-32)**

Electrodes, pH meters, and accessories are featured in a bulletin published by Beckman Instruments, Inc. Described are the various models of the instruments manufactured by the firm. Included is advice on the selection of proper equipment. **(F-33)**

Measuring, exhibiting, and controlling temperature and pressure instruments are described in a catalog published by Fischer & Porter Co. The Ratotherm instruments have thermal systems covering ranges between —125° F. and +1,000° F. Ratogage instruments cover ranges between 30 in. of mercury vacuum and 10,000-psi. pressure. **(F-34)**

Recording gages are discussed in a 32-p. bulletin published by The Bristol Co. The bulletin gives complete information on pressure gages for ranges from 0 to 2 in. of water and 0 to 10,000 psi.; vacuum gages; low-range draft and pressure gages; and barometers and absolute pressure gages for ranges as low as 0 to 6 mm. of mercury absolute. **(F-35)**

A pH electrode catalog has been issued by Leeds & Northrup Co. This 28-page booklet is designed to help users of Leeds and Northrup pH equipment in the ordering of replacement parts, and to guide new or prospective users in selecting the proper electrodes for their pH problems. **(F-36)**

An improved surface pyrometer is described in a bulletin published by The Pyrometer Instrument Co. The Pyro surface pyrometer is completely self-contained, portable, compact, and quick-acting; and it is designed for surface or sub-surface temperature measurements. **(F-37)**

ENGINEERING DATA

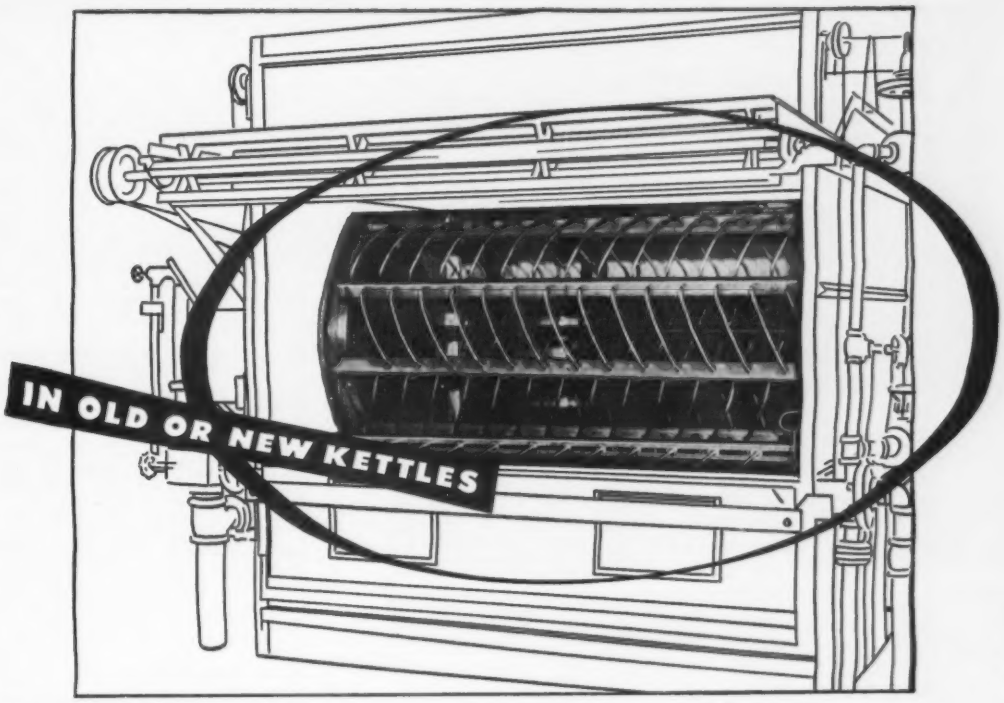
Synchronous motor-generator sets are described in an 8-p. booklet issued by General Electric Co. The booklet describes motor-generator sets from 20 to 8,000 kw. as a source of d. c. power. **(F-38)**

Mechanical packings are featured in a 32-p. catalog published by Flexrock Co. The catalog gives specifications and describes the recommended use of each of the types of mechanical packings made by the firm. **(F-39)**

An all-purpose steam trap is described in a catalog published by Perfecting Service Co. This unit, the Velan Bi-Metal Universal steam trap, may be adapted to any installation, can be mounted in any position, and will perform multiple functions. **(F-40)**

Protective coatings for tank and duct linings and for protection of equipment and floors are discussed in a bulletin published by Carboline Co. A new coating, called Carbo-Kote 6020, has a solids content of 100%, is fluid and free flowing during application, and can be applied 12 mils thick in one application, even on vertical surfaces. **(F-41)**

Packaged water-heating units are described in a bulletin published by O'Brien Steam Specialty Co., Inc. The O'Brien all-bronze steam-mixer water heaters are packaged units complete with all controls and accessories. They



for better dyeing *Specify* **New Hunter Herringbone Hump Reel***

The new Hunter Stainless Steel Herringbone Hump Reel offers production advantages and economies for old or new Hunter piece dye kettles as well as for kettles of other manufacture. This revolutionary new design eliminates the chance of streaks and kettle cracks caused by goods running in one fold — it eliminates channeling — it eliminates slip and chafe marks — it eliminates re-dyes! The unique herringbone design effectively opens all types of cloth which makes it ideal for all woolens and worsteds from 7 oz. knit goods to 32 oz. Meltons.

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Call in a HUNTER Field Engineer...

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Rudel Machinery Company, Ltd., Canada
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How about a system that shoots the works when conditions warrant it? Or . . . delivers a mere breath, when that little will do? AND . . . every varying amount in between, automatically; from 16 pounds (per hour, that is) from each atomizer to a mere 2 pounds? Spray so fog-like, its 2-pound delivery is hard to see . . . and its 16-pound delivery hard to believe.

But would you care for it unless it was safe from overflow, leakage or wetting down? And wouldn't you appreciate it if air and water ports . . . both were self-cleaning?

Advantageous as all this is, would you bother with such a system if it ate its head off in power? Or upkeep? Or repairs? Or had to be tinkered with, or frequently tested or readjusted?

All these improvements are now available in the new ParksTurbo Gradumatic Humidifying System.

Write for Bulletin 450

Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

mix steam directly with water to provide instantaneous hot water at controlled temperatures. **(F-42)**

A variable-speed transmission, called the Worthington Allspeed drive, is described in a bulletin issued by Worthington Pump & Machinery Co. These drives have input and output shafts in line, can be run in either direction, have *smooth stepless speed variation,* and permit a full range of speed variation in one unit. **(F-43)**

Rotary unions are described in a bulletin published by Perfecting Service Co. These units are used in revolving connections for supplying steam, air, water, and other mediums from a stationary pipe line to a rotating machine roll or drum. **(F-44)**

Centrifugal pumps are featured in a guide released by Allis-Chalmers Mfg. Co. This guide is designed to aid users in selecting the proper centrifugal pump. **(F-45)**

The fundamentals of fire extinguishing are outlined in a pamphlet published by Ansul Chemical Co. The pamphlet gives the classification of fires, characteristics of flammable liquids and the basic principles of fire extinguishment. **(F-46)**

Planned lighting for industry is discussed in a new 32-p. booklet prepared by Benjamin Electric Mfg. Co. The booklet covers the latest concepts of lighting for industry, gives the benefits to be gained, and outlines methods to employ to put a planned lighting program into effect. **(F-47)**

The function of the chemical consultant in industrial research is discussed in a 26-p. brochure published by Foster D. Snell, Inc. The brochure, entitled *Research Facilities Without Capital Investment,* explains the results to be expected on various types of problems, and gives the advantages of using a consultant. **(F-48)**

Smoke abatement is discussed in a brochure published by Fibrico Jointless Firebrick Co. The PiiOjet system for smoke abatement utilizes the principle of over-fire air jets to reduce smoke and to give greater combustion efficiency. **(F-49)**

A centrifugal pump, in which all parts except the pump casing are contained in one replaceable rotary assembly, is described in a bulletin published by DeLaval Steam Turbine Co. The new pump, known as the De Laval GS pump, was designed for a service and exchange plan. **(F-50)**

Machinery Layout For American System

Technical Editor:

Can you recommend a machinery layout for a small spinning department to operate on the American system? We propose to spin 2/40 yarn.

I'd also appreciate an estimate of the

For more information, write direct or use Reader Service post card.

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N. Y. February, 1931

Staple Pilot Plant Featured in new Avisco Illustrated Booklet

Staple Development is spotlighted in a new booklet release by Avisco. It is one more in the series describing the research activities at American Viscose Corporation.

The Staple Development Plant at Nitro, West Virginia, is an important division of Avisco's product research, acting as a bridge between pure research and commercial scale production. Its dual purpose is to serve as a proving ground for the practical development of manufacturing methods as well as to develop new products.

The booklet "Staple Development Plant" tells how this department achieves these objectives . . . how it helped to develop such products as one-denier, varied-length and crimped staple. Copies are available on request to those interested in keeping abreast of advances in the textile industry.

1—During initial stages of work, spinning solution is prepared in miniature mixer.

2—Microtome cuts wax-embedded rayon into microscopically thin slices 2/25,000 of an inch thick. Later wax is melted away and rayon cross section studied.

3—Moisture tests in Emerson oven indicate uniformity of products, provide check on experimental developments.

4—Staple Development scientist uses planimeter on photomicrograph to measure area of cross section of rayon staple.

RAYON 20 YEARS AGO

TOKYO, JAPAN, February 1931—Due to increased Japanese rayon production the Tokyo Rice Exchange will soon deal in rayon yarns.

NEW YORK, February 1931—It is felt that spun rayons heretofore relatively neglected in the United States will now receive extensive promotion.

NEW YORK, February 1931—After 15 years at 171 Madison Avenue, the Viscose Company has moved to expanded quarters at 200 Madison Avenue.

MAKE USE OF *Avisco* 4-PLY SERVICE

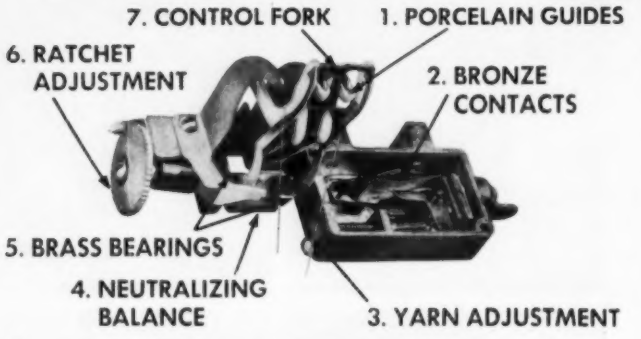
To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.



Any KNITTING MACHINE DOES BETTER WORK with the

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ELECTRIC *STOP* MOTION

Features

1. Porcelain Guides, smooth, frictionless, long wearing.
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3. Yarn Adjustment for each specific weight of yarn.
4. Neutralizing Balance gives sure, even action and yarn control.
5. Brass bearings insure long life and uniform, smooth action.
6. Ratchet Adjustment assures automatic action and protection for all yarn strengths.
7. Control Forks automatically protect your machine from damage due to uneven, faulty or broken yarn.

Engineered to your specific machines

You can confidently expect highly satisfactory results, in your mill, from Crawford's Electric STOPmotion . . . judging by our more than 59 years' experience in hundreds of Knitting Mills throughout the world. Crawford Engineering has kept abreast of every development in design and performance of modern knitting practices. Write for full details today.

Other Crawford specialties include the Crawford Hole Detector and the Crawford Needle Saver; to be covered in following advertisements.

• Save this Series for Better Knitting

Designed, Engineered and Manufactured by

The CRAWFORD MFG. CO., INC.

NEW BRUNSWICK, N. J. Tel. 2-0603

Questions and Answers

(Continued)

cost of converting the wool top to 2/40 yarn. (9421)

The following layout should produce American-worsted yarn at a cost of about 1½ to 2¢ per count, or 60 to 80¢ per lb. for 2/40 yarn.

Drawing

Four pin drafters (operating two shifts)

Two 36-spindle ring reducers (operating one shift)

Ten 200-spindle ring spinning frames with Ambler long-draft attachments (operating three shifts)

Twisting

Six 200-spindle ring twisters (operating three shifts)

Winding

Two 100-spindle Roto-Coners (operating one and a half shifts)

One 50-spindle doubler (operating one shift)

This layout would give you an up-to-date plant.

It probably would be better to buy new machinery except for the two 36-spindle reducers and the ten 200-spindle ring spinning frames.

If you can buy good second-hand frames and install new long-draft attachments, you can spin good yarn.

Splitting Colors at Slasher Causes Weaving Trouble

Technical Editor:

We are having trouble with the yarns in our stripe patterns getting mixed.

There are 3,612 ends per loom beam, arranged in 258 repeats as follows:

3 light blue—(total ends in warp 774)
1 white —(total 258)
1 light blue—(total 258)
1 white —(total 258)
2 dark blue—(total 516)
6 white —(total 1,548)

Nine beams are used in warping with the ends divided as follows:

Light blue: 1,032 ends, with 344 ends on each of three beams;
White: 2,064 ends, with 412 ends on each of four beams;
Dark blue: 516 ends, with 258 ends on each of two beams.

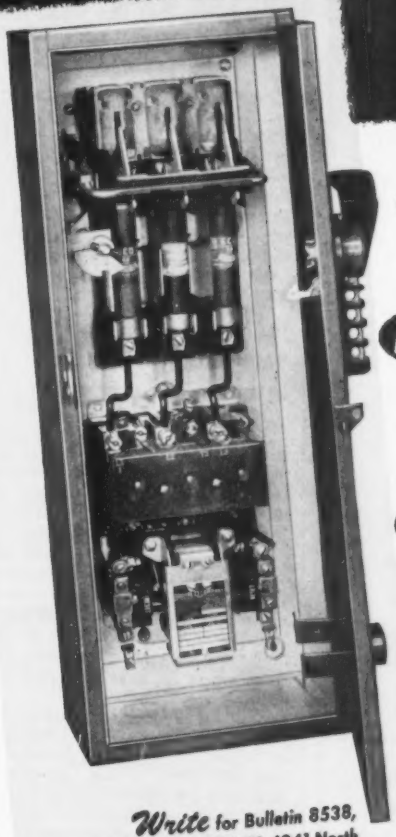
On the slasher, we split the ends on the comb as follows:

First dent: 3 light blue, 1 white, 1 light blue, 1 white;
Second dent: 2 dark blue, 6 white.

Our trouble begins when the ends leave the slasher comb and wind on the loom beam at the front of the slasher. The colors in each dent do not keep their proper positions. Instead of the 3-1-1-1 order of the light blues and whites in the first dent, the ends may appear in any order on the loom beam.

When the beam goes to the drawing-in operator, it is all but impossible for her

DESIGN LEADERSHIP



THIS NEW SQUARE D COMBINATION STARTER (SWITCH TYPE) offers Greater Operator Safety and Longer Motor Starter Life

NEW ***Switch Operating Mechanism*** provides maximum operator safety. Interlock prevents opening door when disconnect is on. When door is re-closed, self-aligning handle indicates true position of disconnect. Operating handle can be locked on or off with one, two, three or four padlocks of varying sizes. Handle-locking mechanism also locks door.

NEW ***Switch Design*** has quick make and quick break action—no dead center—visible blades for easy checking—magnetic arc plate for high rupturing capacity—dead-front line terminals, protected by hinged arc chamber cover—positive pressure jaws and fuse clips—non-tracking insulation.

NEW ***Features in Magnetic Starter Design*** Square D's time-proven design has always provided easy installation, simple maintenance, and long life. Now, even longer life is assured by straight line, guided motion of armature and movable contact assembly which eliminates bearing and reduces wear. For added convenience and flexibility, Square D starters now have NEMA standard mounting and wiring.

Write for Bulletin 8538, SQUARE D COMPANY, 4041 North Richards Street, Milwaukee 12, Wis.

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...when you use **ISOMODE* TEXTILE PADS**

Here's how you can do an easy, low cost job of vibration control in your mill: Simply cut Isomode Textile Pads to shape and put between loom legs and floor. That's all. Mill applications and recent tests prove that such installations, despite the nominal cost of Isomode Textile Pads, do one of the best jobs of vibration isolation. The pads not only absorb most of the vibration normally transmitted through legs, but reduce noise levels at the same time.

Machines stay put on these pads without bolting. And since the equipment is not rigidly mounted, strains on machines are reduced, thereby cutting your maintenance bills and assuring longer lasting equipment.

Molded of Du Pont Neoprene, Isomode Pads resist oil, water – last for years. Why not try an installation and actually *feel* the remarkable result for yourself?

**Trade Mark Reg. U. S. Pat. Off.*

THE MB MANUFACTURING COMPANY, INC.
1084 State Street, New Haven 11, Conn.

Please send data sheet containing more information on Isomode Textile Pads and how to install them easily and quickly.

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R. B. Dorman, Atlanta, Ga. • Oliver D. Landis, Charlotte, N. C.
Standard Mill Supply, 350 Fifth Avenue, N. Y., N. Y.

Questions and Answers

(Continued)

to draw in the yarn in the proper 3-1-1-1 and 2-6 order. The results are that we have crossed yarns and shady patterns that weave bad and look bad.

How can we correct this trouble? (9416)

The basis of your trouble seems to be that you have your colors on separate beams. The light blues are on three beams, the whites are on four beams, and the dark blues are on two beams. This arrangement causes some of the ends to enter the comb at an angle, and they tend to roll and slip as they wind on the loom beam.

If it could be worked out, placing ends of each color on each beam at the warper so that they would enter the comb in a straight line and in the proper sequence might solve the problem.

Another method would be to put a bar similar to a lease-out bar used with a mechanical warp stop motion between the slasher comb and top guide roll. String heavy loom drop wires on this bar and let them swing down between the warp ends. Use a drop wire between the ends of each color, and the ends will be placed on the beam in the correct order for the drawing-in hand.

Talc Preferred to Clay In Backsize Solutions

Technical Editor:

As a filler for backsizing solutions, which is better: clay or talc? Could you give me a formula for a backsizing solution for rayon cloth? What is the best way to apply the solution? (9419)

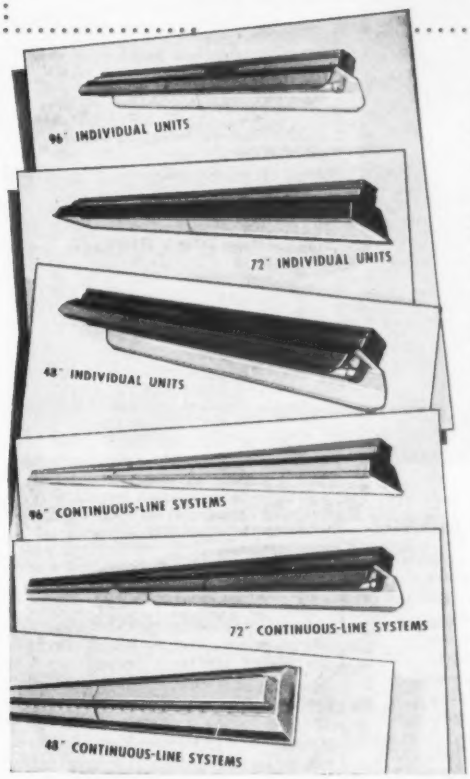
Many heavyweight rayon fabrics, as well as rayon-decorated cotton fabrics, are backsized, or filled, by running the goods through the nip on a rayon quetsch or mangle. Less seldom are such goods filled on the back by running them through a backfilling machine, where the finish is applied by a doctor blade.

Finishes applied on a mangle are generally for the purpose of stiffening or firming up the goods. Materials used are glue, gelatin, locust-bean gum, and converted starches applied either with or without the addition of a sulphonated-oil or mineral-oil emulsion.

In nipping the goods through the mangle, it is important that the mix be of such viscosity that it does not push through to the surface of the fabric; therefore, mixes of fairly heavy body are ordinarily used. Fillers such as talc or china clay are seldom added to such mixes.

If fillers of this type were used on

NEW BENJAMIN "MAGNA-FLO" BULLETIN *Available Now!*



Tells Why You Capitalize Fully on the EXTRA EFFICIENCY of the NEW T12 SLIMLINE LAMPS when you specify NEW BENJAMIN "MAGNA-FLO" SYSTEMS

Bulletin MF brings you complete data on the 18 different types of Benjamin "Magna-Flo" Units for the 96", 72" and 48" T12 Slimline Lamps. It describes all the "Magna-Flo" advantages which make possible *higher lighting levels* at lower cost with sustained efficiency.

Of special interest are illustrations, descriptions and other data on the many Benjamin "Magna-Flo" features which enable you to capitalize fully on the extra-efficiency of the new, instant-start, single-pin T12 Slimline Lamps. Among the features described are:

- **The right unit for every installation requirement.** Wide variety of types and sizes! Individual units or continuous lines . . . closed or open-end . . . apertures for brightness control.
- **Speedier lamp maintenance with new single-pin "SPRINGLOX" Lampholders!** Lamp pin contacts cannot get out of order . . . faster lamping and re-lamping . . . eliminates danger of lamps dropping out . . . exclusive with Benjamin!
- **High light reflection factor** of Benjamin "Life-Time" Porcelain Enamel Reflectors (82% minimum).

. . . and of course, as you would expect of any Benjamin Fluorescent Lighting Unit, you get Certified Ballasts for minimum service interruptions; easy-to-clean "Life-Time" Porcelain Enamel Reflectors; RLM-approved open-end reflector contour; famous "built-like-a-battleship" construction for greater structural strength and elimination of channel sag; and all the other plus-values which you naturally associate with Benjamin Quality.

Get all the important facts about "Magna-Flo"—the most modern way to get MORE LIGHT at LOWER COST! Mail the coupon below TODAY!

"LOK-LATCH" Reflector Fasteners
Hand-operated. Permit rapid attachment and detachment of reflector from housing.

"SPRINGLOX" Lampholders
Patented construction greatly simplifies and speeds up lamp insertion and removal.

"Magna-Flo" Units are available for either two or three 48", 72" or 96" T12 Slimline Lamps

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Please send me, without cost or obligation, your Bulletin MF to assist me in obtaining MORE LIGHT at LOWER COST.

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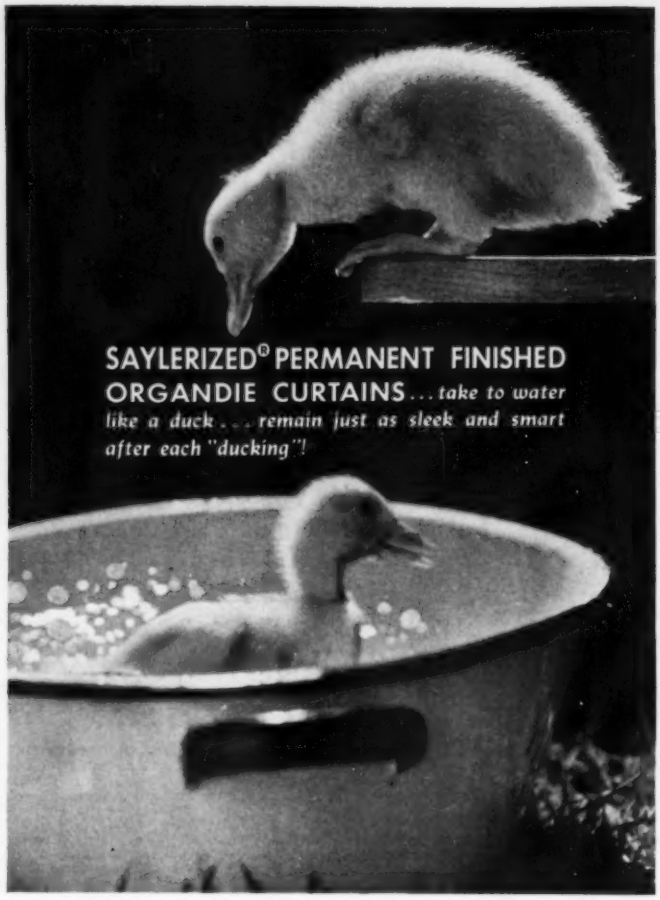
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after each "ducking"!

WHY SAYLERIZED ORGANDIE CURTAINS ARE AMERICA'S FAVORITE

Because they're lovely, practical, and economical, Saylerized Permanent Finished Organdie Curtains are first choice of millions of women from coast to coast. Saylerized organdies launder to perfection with practically no care. No starching, no stretching required... they always remain rustling-crisp and new-looking, even in damp weather. Because they are free of sticky, dust-inviting starch, they actually repel soiling, require fewer launderings, wear much longer. Ideal for seashore cottage... country home... town house... or modern apartment... Saylerized Organdie Curtains are everything that women want for the window beautiful.

Sayles

SAYLES FINISHING PLANTS, INC

Guaranteed by Good Housekeeping

Questions and Answers (Continued)

rayon goods, there would be a sharp contrast in the appearance of the goods between face and back.

In backfilling on a machine with a doctor blade, very heavy mixes are run because the blade deposits only a small quantity of the mix on the surface of the cloth. Thick-boiling starches are used to give body to the mix as well as stiffening the fabric. Fillers are used in the mix in rather large amounts. Talc is generally preferred to china clay since it contains less grit and does not dust out quite as readily as does china clay.

A typical formulation for a mix of this type would be:

Corn starch	100 (lb.)
Talc	250
Gum (such as locus bean)	2½
Softener	75
Water	55 gal.

This formula, with the amount of talc it has in it, can be used only on white or pastel dyed goods.

Grind Garnett Wire Only When It's Uneven

Technical Editor:

We should like to ask you a few questions in connection with picking and garnetting of old wool clothing.

How many working hours should a rag picker run before the lags or teeth become so worn that they require attention?

Would the next operation be to reverse them?

When do you grind them?

About how many 8-hr. shifts should the garnett workers, strippers, and main cylinders run before they are ground?

How do you determine when it is time to grind?

What would be the results if you continued to run the garnett beyond the time it should have been sharpened? (9417)

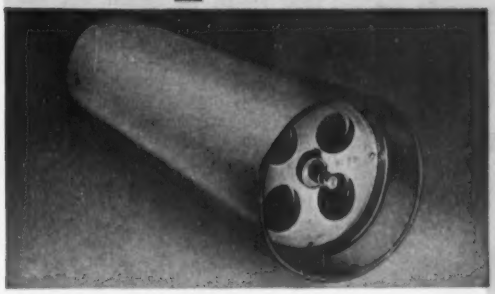
You can't determine beforehand how many hours a rag picker should run before the teeth become worn. The length of time would depend on the kind of stock run. On worsted stock, a picker cylinder might run about 80 hr. On soft woolens, it might run two or three times that long.

The usual practice is to grind the teeth with a stone, with the picker running, every other shift or every other day, depending on the kind of stock being run. If the teeth wear unevenly, the cylinder is taken out and ground with a traverse grinder.

The picker cylinder is usually reversed every week.

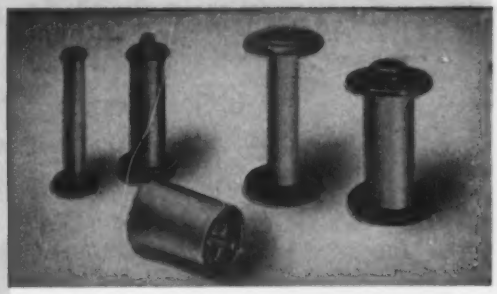
Garnetting old woolen clothing is done only for shoddy to be used for batting. The fibers are usually short

SYNTHANE—the Material to Speed Textile Processes



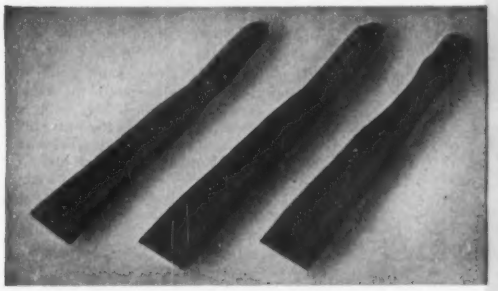
SYNTHANE TEXTILE ROLLERS

Furnisher rolls, warp beam rolls and measuring rolls made from Synthane do not absorb moisture or dyes, hence are quickly and easily cleaned. They are light in weight, easy to handle, unaffected by oils or dye chemicals, and they resist wear. We can supply rollers accurately dimensioned to your needs, without metal cores where light weight is important, or Synthane may be laminated over cores for more strength.



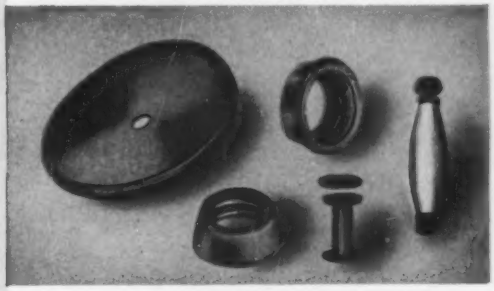
BOBBINS AND PIRNS

Synthane has many advantages as a material for bobbins and pirns. Synthane bobbins and pirns are hard, dense, smooth, dimensionally stable, moisture resistant, non-staining, light in weight, and they come machined to precise dimensions for perfect balance. They help attain increased spindle speeds, improved quality of finished yarns and lowered maintenance costs.



SYNTHANE TURNING AND EXAMINING FORMS

Synthane is smooth and stays smooth, will not snag or pull the finest denier yarns. Synthane forms are solid black throughout; the color cannot wear off. The dull finish is easy on inspectors' eyes, quickly shows up even the smallest defect. Synthane Turning and Inspection Form shown in center is latest, and one of most popular, forms. Note deep groove in which stocking rides during turning operation to prevent contact with the heavy welt yarns in the stocking top. Eliminates picks or pulls. Permits turning of the stocking before inspection instead of after. Also available with oval-shaped hole at toe end to facilitate turning.



NON-SNAGGING REDRAW CAPS

Synthane redraw caps are available in all types and dimensions. They are smooth, have no sharp corners, can't snag.

Bobbin type are low in cost, prevent damage to yarn, rehabilitate damaged bobbin heads. We will send you undimensioned drawings which you can mark to suit your needs. Write for them.

Pirn type permit drawing from wooden or paper pirns from any position without snagging. They may be used on bottom of pirn to prevent snagging from splinters on worn T-slots. Made in two sizes to fit a wide range of pirn types and sizes. Snap ring locks cap firmly in position.

SYNTHANE ALSO MANUFACTURES

- caps for sizing bobbins
- rayon cake holders
- traverse slides
- redraw chucks
- hosiery sizing forms
- drier pole rests
- balloon separators
- redraw tubes
- finger inserts
- hosiery mending cups
- bobbin bushings
- verge plates
- macerated gears and gear blanks
- spindle bushings
- spindle adapter tubes
- redraw caps for nylon shipping pirns
- hosiery carrying boards
- hosiery examining forms

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and contain a lot of dirt. The fiber packs around the garnett wire and must be stripped out quite often to keep the machine working properly.

As in the case of pickers, it is not good practice to grind garnetts unless the wire on the rolls becomes uneven. The usual practice is to tool out the rolls with a special tool and then sharpen the wire with special files.

If picker or garnett wire is allowed to become dull, the results will be poor work. Fibers will not be adequately separated and combed out, and the web of fibers will have a cloudy, uneven look. In extreme cases, the thick and thin places that cause the cloudy look will grow worse until there are lumps of fiber and holes in the web.

Too Much Tension Causes Filling Breaks

Technical Editor:

We are weaving a fabric with 5-run yarn in the warp and 1/40 crepe worsted filling. We are having quite a bit of difficulty with filling breaks in the loom.

The breaks occur when the quill of filling has woven down until the yarn pulls the bobbin in a line almost parallel with the bobbin. Breakage is so bad that we can't run the bobbin down low enough for the filling to transfer automatically. The weaver has to change quills in the shuttle by hand.

This condition lowers our production and also causes too much waste.

Our quills are regular 8¼-in. quills for automatic looms. In the shuttle, we use two brushes against the top of the quill and two more at the tip of the quill. If we try running with fewer brushes, the yarn kinks badly.

Would lining the shuttle with some type of fur help? Do you have any other suggestion? (9418)

In order to weave a fabric with filling as fine as 1/40, a number of conditions must be considered.

It would seem almost impossible to run a loom on fine filling with four brushes in the shuttle. Even two brushes would cause entirely too much tension. The result would be filling breakage.

One very fine brush resting lightly on the bobbin should be sufficient.

Good results may also be obtained by gluing a ¼-in. strip of fine fur on the top of one side wall and the bottom of the other side wall of the shuttle. The fur should be trimmed so that it rests lightly on the bobbin.

If fur is used, you should not use brushes.

Your trouble in this case seems

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December 20, 1950

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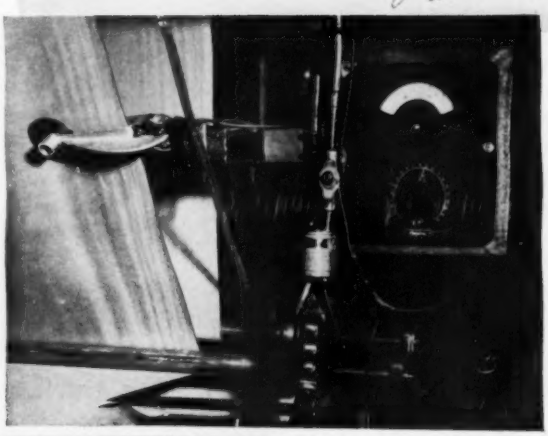
I think your Company is to be highly congratulated on this new equipment.

Very truly yours,
COLD SPRING BLEACHERY.
John F. McCarty
President.



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Questions and Answers

(Continued)

to be that you are trying to eliminate filling kinks at the expense of filling breakage.

There are ways to eliminate kinks that will not cause filling breakage.

If the yarn is kinky, it should be conditioned. There are a number of methods. Steaming the yarn after spinning will usually take most of the kink out of the yarn.

Then there are a number of yarn-conditioning machines on the market that use steam, a fine spray of water, or a spray of a chemical conditioner. These machines are fast and economical.

Some mills store the filling yarn in a damp cellar for a few days before weaving. Such aging will take some of the liveliness out of the yarn.

Loom adjustments are also important. Kinks may be caused by too much power on the pick, hard shuttle checks, rebounding shuttles, or improper harness-motion timing.

The top and bottom harness cylinders should be set so that the harnesses will be crossing when the lay is about 2 in. from front center. On some weaves it may be necessary to run the harnesses a little later, but an early harness crossing will help to eliminate kinks.

Loose Worsted Cloth Tends to Wrinkle

Technical Editor:

We are weaving 10-oz. worsted cloth 57 in. wide. We use 2/40 warp and 1/20 filling. The weave is plain, with 50 warp ends and 42 picks per in. The yarn is spun on the French system from 60s quality merino wool.

Suits made from this cloth wrinkle very quickly in the hot, dry summer days here [Iraq]. Is there anything that might improve the crease resistance of this cloth without changing our yarn counts too much? Would Bradford-spun yarn be more crease-resistant? (9420)

A much better estimate of your needs could have been made if you'd sent a sample of the cloth in question.

It sounds as though your fabric is too loose. It should be tightened up one way or another. The only ways to tighten the goods are (1) heavy up on your yarn numbers, (2) increase the number of ends and/or picks per inch with the same fabric width, or (3) weave your cloth narrower in order to increase the ends per inch.

It's almost certain that Bradford-spun yarn would not improve the situation.

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AlSiMag Roller or Pulley type thread guides are custom made. They can be made for metal or AlSiMag axles for comparatively low speeds. At higher speeds it is advisable to carry these guides on oilite, ball, roller or other type of lubricated non-friction bearing. AlSiMag is harder than metals usually used for axles. AlSiMag is homogeneous, has no surface skin to wear through and cause guide failure.

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If the length of the guide does not exceed the outer diameter by more than ten times, a normal camber of 0.006" can normally be expected. Example: ½" O.D. x 5" long with average number of grooves should be within a total of 0.030" camber. If closer tolerances are necessary, consult our engineers.

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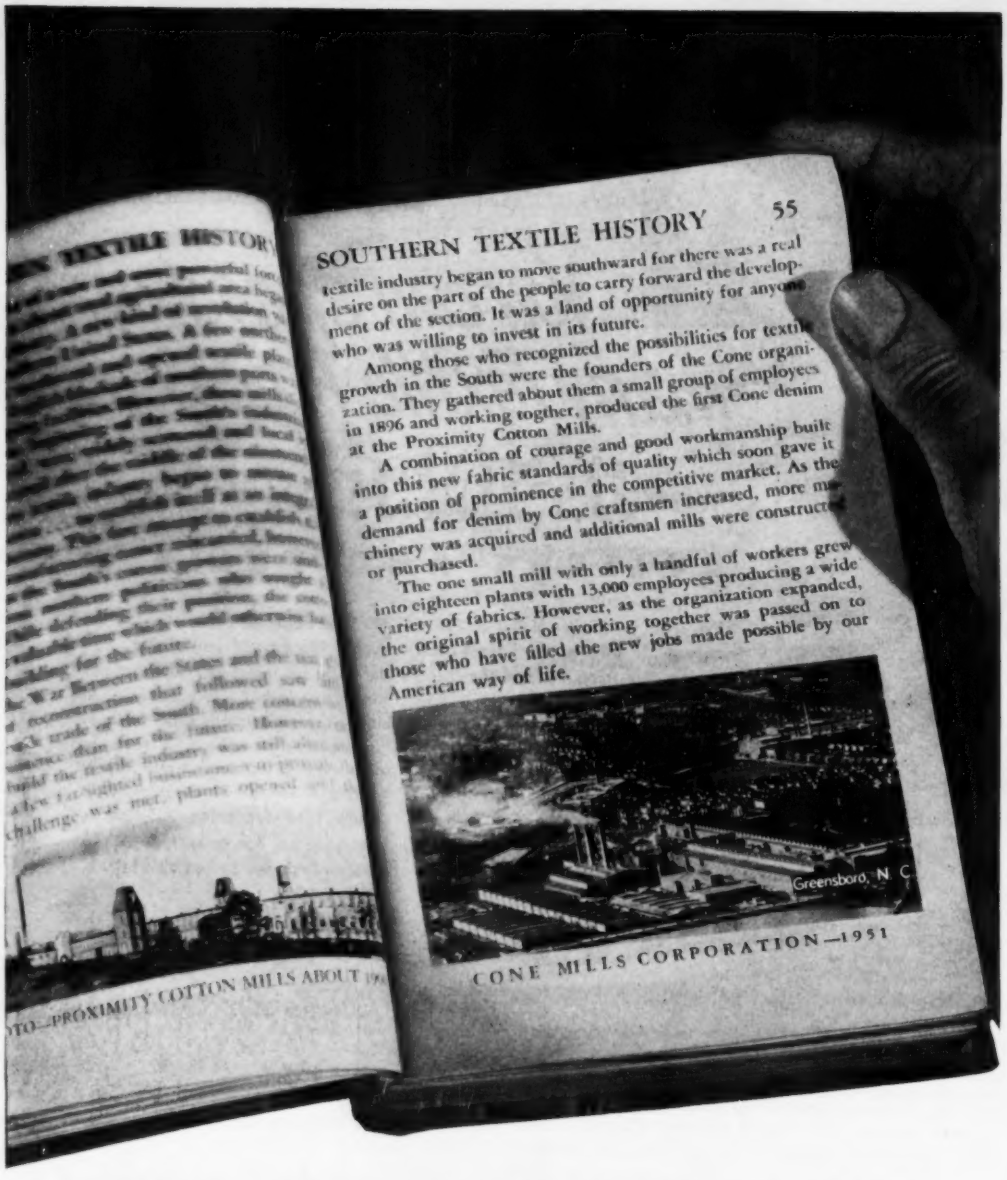
SOUTHERN TEXTILE HISTORY 55
textile industry began to move southward for there was a real
desire on the part of the people to carry forward the develop-
ment of the section. It was a land of opportunity for anyone
who was willing to invest in its future.
Among those who recognized the possibilities for textile
growth in the South were the founders of the Cone organi-
zation. They gathered about them a small group of employees
in 1896 and working togther, produced the first Cone denim
at the Proximity Cotton Mills.
A combination of courage and good workmanship built
into this new fabric standards of quality which soon gave it
a position of prominence in the competitive market. As the
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The one small mill with only a handful of workers grew
into eighteen plants with 13,000 employees producing a wide
variety of fabrics. However, as the organization expanded,
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those who have filled the new jobs made possible by our
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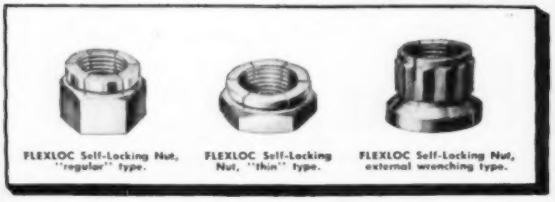

FLEXLOC Self-Locking Nut, "regular" type.

FLEXLOC Self-Locking Nut, "thin" type.

FLEXLOC Self-Locking Nut, external wrenching type.

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TEXTILE *Equipment* NEWS

(*Continued from* page 176)

Elwell-Parker fork trucks, or may be supplied as an attachment for standard-model fork trucks. The tines can be used either in the ordinary way or may be quickly adjusted for unusual conditions relating to size or position of the load.

Each tine of the fork is adapted to swing inward from normal straightforward position, facilitating its entrance into a pallet or under a skid. The tines may be set so their points almost come together in the form of a V, or so that one tine remains in normal position while the other is moved over far enough for the outer end to touch it.

Versatile Grease Can Do Most Mill Lubricating Jobs

A new oxidation-inhibited multipurpose grease, Cosmolube, said to meet practically all the grease needs in the average mill, is now being offered by E. F. Houghton & Co., Philadelphia, Pa.

A feature of this grease, which makes it highly versatile, is its resistance to high heat, cold, or wet conditions. Cosmolube is a cold-milled grease of a very smooth texture, with excellent oxidation stability. It clings well to all metal surfaces, and reduces leakage to the barest minimum. It will outlast ordinary lubricants, even under severe operating conditions, the manufacturer states.

Cosmolube is said to simplify lubrication, reduce errors of misapplication, and to save time and space because one grease does many jobs. Cosmolube is available in two consistencies, NLGI No. 1 and 2.

The Textile Community

(*Continued from* page 161)

conducts kindergarten classes for the children. In Inman, S. C., at the Inman Mills, sandpiles, swings, slides for children's amusement and entertainment were included in plans for the mill's recreation grounds.

Down in Alabama, at Avondale Mills, kindergarten and pre-kindergarten schools are at each of the plants. Busses pick up the children at school-time and deliver them back to their homes at the close of the session. In Sylacauga, the mothers, with the mill's cooperation, have a real "Baby-Sitters

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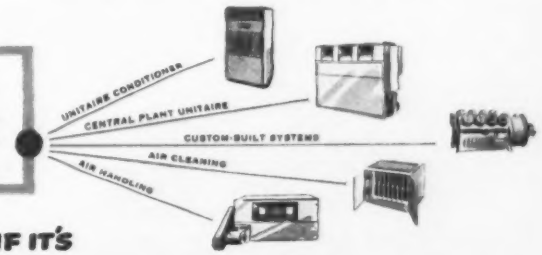

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In any city or town such a service would be a welcome innovation for young mothers. In the textile industry, where more than 50% of the employees are women and with the naturally large quota of young mothers who have household chores, or jobs, or both, kindergartens, day nurseries and baby-sitting services are more than places to park the children. They are safeguards against fatigue and frayed nerves. But in addition they represent the child's first approach to better community living.

N. C. State Meeting

(*Continued from page 155*)

Neps—The Plague of Cotton Textiles

In this talk, Prof. John F. Bogdan gave a summary of the results to date on the nep-research program underway at State. This $60,000 program is sponsored by the USDA and is administered by SRRL, New Orleans, La. It has been going on for two and a half years and will be completed in June of this year.

All neps, according to Prof. Bogdan, are manufactured. That is, they do not exist in a normal, healthy cotton boll. It has been pretty well established that neps are tangles of fibers caused primarily by lack of control of the fibers in various stages of processing.

Prof. Bogdan's research has shown that neps can be reduced in the following ways:

1. **Proper selection of cotton.** Fineness and maturity of cotton are significant factors in determining the nepability of the fiber. Fine fibers tend to bend easier than coarse fibers. Immature fibers have very little body.

Yarns made from mature, coarse fibers will have the least neps. Therefore, cottons should be purchased on the basis of maturity and fineness as well as grade and staple length.

2. **Avoid severe treatment of cotton.** In ginning and opening action, the fibers are rolled around and balled up. When fibers are twirled around

Step up production and don't add a man

Equipment breakdowns stop the steady flow of production. Eliminate breakdowns and you increase production without adding a man.

A Kardex Visible Maintenance System *automatically* indicates which machines need preventive attention. You route maintenance men to the right job, on the right machine, at the right time.

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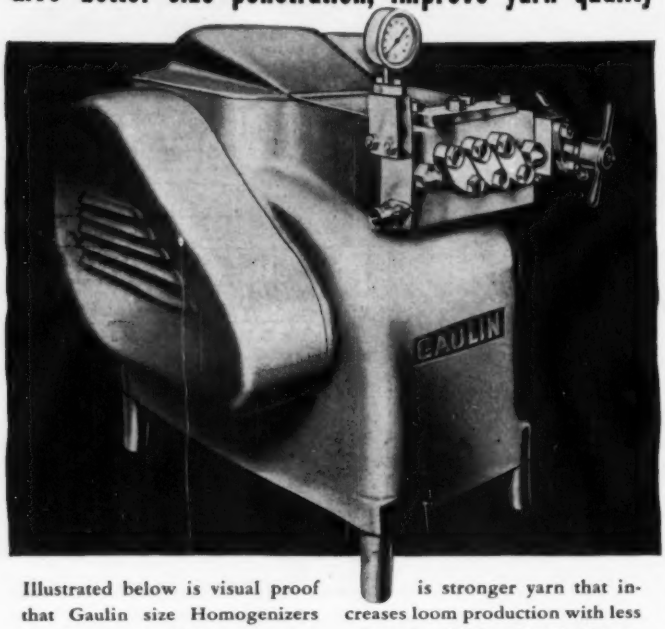
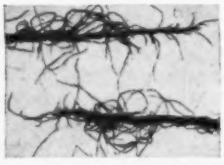
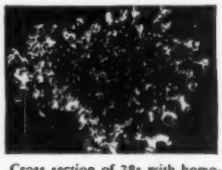


Illustrated below is visual proof that Gaulin size Homogenizers improve the quality of size, thus assuring better, more uniform size penetration into yarn. The result is stronger yarn that increases loom production with less rejects. In addition, Gaulin Homogenizers eliminate cooking time, providing still greater savings.

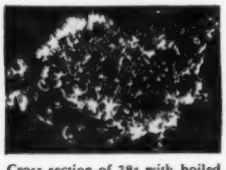
Photo micrograph shows break of homogenized single 60s yarn. Note the uniform lay of the fibres.



Break of 60s yarn coated with boiled size of same formulation. Notice the irregular break throughout.



Cross section of 28s with homogenized size. Size coating and penetration is uniform throughout.



Cross section of 28s with boiled size. Note the heavy and thin size deposits.

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they tend to become tangled, and tangled fibers end up as neps.

The least neps will be obtained with a minimum of beating. Use as few opening processes as feasible. Reduce blows per inch in picking to a minimum.

3. **Do everything possible to reduce loading in cards.** When the working surfaces of a card become loaded, fibers get balled up and form neps.

To reduce the loading and get less neps, close up the settings between the flats and cylinder. A close setting gives the fibers less chance to roll up and become embedded in the wires.

Also, strip frequently to remove those fibers which do become imbedded. Tests have shown that neps increase steadily after stripping as loading takes place.

Keep the wires sharp. Grind as frequently as necessary to keep the fibers moving. Blunt or dull wires cause fibers to slip and get rolled up.

Set the doffer as close to the cylinder as necessary to transfer the fibers effectively. Closer settings cause more fibers to be transferred, reduce loading, and give fewer neps and yarn with better appearance.

4. **Transfer the fibers from the lickerin to the cylinder gently.** If the surface speed of the lickerin is increased so that it approaches, but is a little less than, the surface speed of the cylinder, the fibers will be stripped off the lickerin more gently and smoother. They don't get the harsh treatment which causes them to become tangled and compressed and form neps.

Tests have shown that a lickerin speed of 800 rpm. with a cylinder speed of 165 rpm. gives very uniform yarn with a minimum of neps. (In reply to a question from the floor, Mr. Bogdan said that the lickerin bearings did not heat or show excessive wear at this high speed.)

5. **Improve the distribution of fibers onto the cylinder.** A lickerin speed of 800 rpm. with all other speeds normal will improve the distribution of fibers on the cylinder. Each tooth of the lickerin will handle approximately half the normal number of fibers, and when they are transferred to the cylinder, a better distribution results.

The Pacific Converter

Joe Cobb, General Supt., Rhodiss Div., Pacific Mills, described the mill use of the converter. At the Rhodiss plant, the converter is used as a process in the American system.

Here is the set-up used for a 50-50 blend of viscose and acetate. A 250-gr. sliver is made on the converter from tow totaling 1,000,000 den. A sliver-

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Yarns we process include cotton, rayon, worsted, nylon, linen, blend and novelty yarns.

1865
1951

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lap winder is then used to make 32-lb. laps. These laps are run on conventional flat-top cards. Next, two drawing processes are used. Then comes long-draft roving, spinning, winding, warping, slashing, and weaving.

Mr. Cobb stated that flat-top cards are used on stock even up to 3-in. staple. He pointed out that in the sliver made on the converter, the fibers are straight and comparatively parallel. When asked why he cards the stock at all, he said that many fibers are "married"—that is, very close together; and carding gives better yarn than if the stock is not carded.

He did say, however, that the card can be by-passed with 100% viscose and 100% nylon or blends of these two fibers.

Filling bands in weaving have been virtually eliminated at Rhodiss. In a six-month test, Mr. Cobb said that single-shuttle fabrics showed no filling bands. According to Mr. Cobb, the use of the Pacific Converter gives higher production and greater yarn strength, requires less floor space and power, and makes possible the use of coarser-denier fibers.

New Developments in Cotton

Dent Mangum, Technical Service Dept., National Cotton Council, Washington, D. C., outlined research and development of cotton in the field of genetics, in production and harvesting practices, in mill processing, and in finishing.

Varieties of cotton have been improved, and new varieties have been developed through genetics. The emphasis of this development work has been on increasing strength and improving character to give better spinning quality.

Some experimental triple hybrids, or inter-species crosses, have produced fibers with a tensile strength of 150,000 psi. Breeders are also concentrating on improving other fiber properties such as elasticity, coarseness, and those factors which influence dyeing and finishing.

Through a cooperative program involving breeders, mills, USDA, and the National Cotton Council, these experimental cottons are being tested and evaluated for possible commercial growth.

In the field of harvesting, emphasis is being placed on further development of mechanical picking and defoliation. About 10% of the entire 1949 crop was harvested by mechanical means. Through the cooperation of six gins and eighteen mills, an exhaustive mill-scale testing program has been set up to study the effects of various ginning operations on spinning.

A new cotton cleaner has been de-

MORE PROFIT

with Taylor Dye Machine Control!

THE Dexdale Hosiery Co., (below) of Lansdale, Pa., reports *higher profits* since installing Taylor Automatic Dye Machine Control. Yes, those Taylor FULSCOPE* Temperature Controllers with Process Timers are helping Dexdale realize higher profits in at least three ways:

1. Uniformity of shades never before possible. Fewer rejects—fewer re-dyes!

2. Steam Saving because exactly enough—no more—is used to maintain required temperature in each dye machine.

3. Less Operator Responsibility. Operator merely sets a dial, then is free for other duties until signal light flashes.

THE SYSTEM WORKS LIKE THIS:

A. Desired dyeing temperature is set by outside adjustment knob.

B. Time for dyeing cycle is set on time dial (top left on each instrument).

C. Steam is automatically turned on, quickly bringing vat up to set temperature. Once set temperature has been reached, automatic timing starts, controlling the process at that temperature for length of time pre-set on dial in step *A*.

D. At the end of that time, steam is automatically shut off and signal light informs operator that the dyeing cycle has been completed.

* * *

All this adds up to keeping quality *consistently uniform* and costs at a minimum. We'd like to help *you* do this by solving your processing problems with accurate, automatic Taylor control. Ask your Taylor Field Engineer! Or write Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. *Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.*

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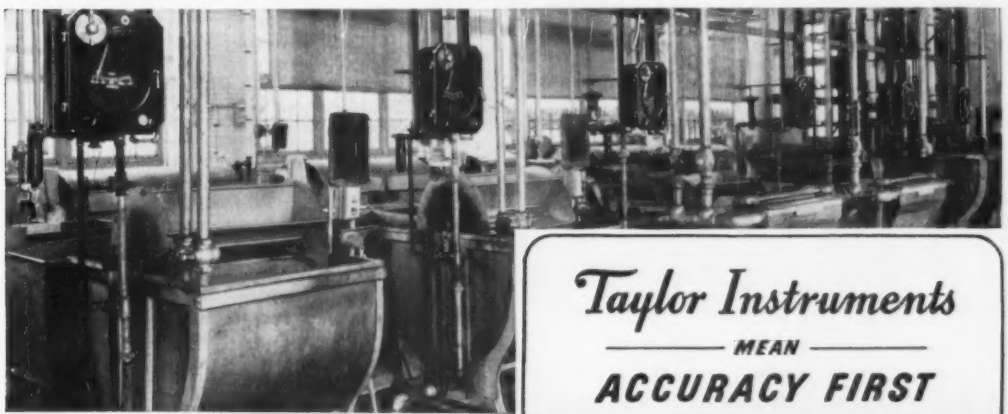

A few of the many Taylor-Controlled dye machines at Dexdale Hosiery Co., Landsdale, Pa.

Taylor Instruments

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veloped as a result of processing research. This new cleaner utilizes a lickerin-type arrangement to fluff-up the matted lumps of cotton into small lofty tufts to prepare them for further cleaning.

A new loom attachment has also been developed. This attachment is designed to permit fabrics to be made with an unusually high number of picks per inch.

In studies of finishing, chemical treatments to alter the cotton cellulose are proving successful. Partially acetylated cotton shows much promise for use in fabrics to provide heat resistance and resistance to mildew and rotting.

Aminized cotton can be dyed an even deeper shade than mercerized cotton. The aminization treatment, developed by SRRL, produces cotton which has different dyeing properties from ordinary cottons. For example, acid wool dyes can be used on this cotton. This treatment can be used as a basis for further modification on fire-resistant finishes and other specialized fabrics.

Cotton which is not changed in appearance, but which has quite different properties, is obtained by carboxymethylation. A partial treatment produces swellable fibers, which absorb water much quicker than regular cotton. Further treatment will produce water-soluble fibers.

Fiber Blending

In his talk, Elliot B. Grover, Head, Yarn Mfg. Dept., School of Textiles, N. C. State College, outlined the reasons for blending and explained the operation of some of the new blending systems.

The main reasons for blending, according to Prof. Grover, are:

1. to reach a desired spinning limit.
2. to improve characteristies of a yarn or fabric.
3. to get a desired feel.
4. to obtain a desired degree of resilience.

The systems of blending explained were the Proctor & Schwartz blender; the Dodenhoff system, which uses Fiber Meters and a Superior cleaner; and the Curlator Rando-Feeder, which employs air suction in the feeder.

Comparative Dyeing Characteristics of Irrigated and Rain-Grown Cotton.

In this talk, Henry Rutherford, Head, Chemistry and Dyeing Dept., School of Textiles, N. C. State College, presented the prize-winning AATCC paper on this subject. The details of this subject were published in the January issue of TEXTILE WORLD on page 122.

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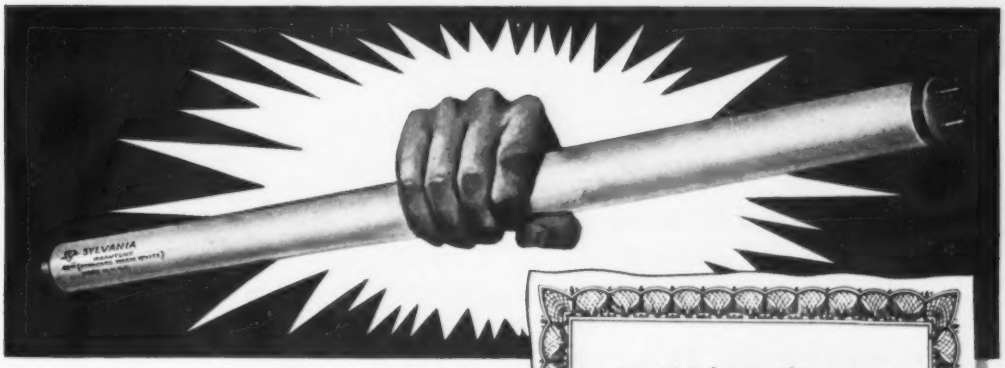

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See Sweet's

Latest (1950) editions —Architects 13g-7; Engineers 4j-21 — for full data and standard specifications.

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FLOOR WITH NORTHERN HARD MAPLE BEECH AND BIRCH

Overseas picture

(Continued from page 119)

much former cotton acreage is now given over to other profitable farm products or uses.

This year's cotton situation will make it hard on some countries' textile-producing capacity. Hard-currency difficulties in many areas do not help the situation. As a result, foresighted nations have been building up their artificial-fiber-production facilities on their own soil. Rayon staple has become especially popular for use on cotton-processing machinery.

The next few months would not appear so grim if wool were plentiful and priced reasonably. But the twin factors of dwindling supply (more permanent for wool than the temporary cotton shortage), and record high-prices in face of military-fabric demand everywhere, are again a reason for building a rayon-producing plant right near home.

A third factor that sharpens the picture even more is the recent banning of first-quarter 1951 rayon-staple exports by some countries for the purpose of conserving it at home for increased use locally as cotton and wool prices keep rising in this new year.

Meanwhile, a study of these thumbnail reports below on textile activities in various countries, and a comparison of the 1950 *World Position of Textiles* chart on page 120 with that of a year ago [TW, Feb., '50, p. 118], will show that more and more yarns and fabrics are being manufactured in more and more areas on the globe with more and more modern equipment.

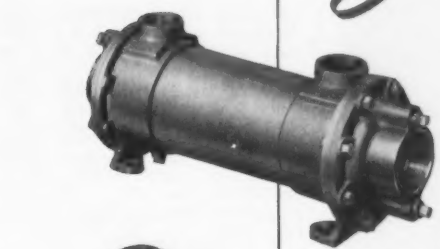
TEXTILE WORLD acknowledges with gratitude the help from many sources in obtaining these factual and statistical data.

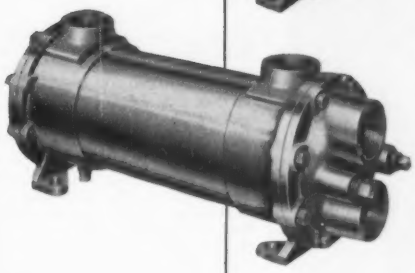
Argentina—Gross textile imports into Argentina for 1949, the latest figures available, were 288,860,000 lb. Of this amount, 11,520,000 lb. were imports of filament and staple. Production gains in the local textile industry appeared to be concentrated in the wool branch. About 7,400 woolen-type looms were in place. Wool-fabric production increased from 67,000,000 lb. in 1949 to 71,000,000 lb. last year. The tempo of wool-fiber exports rose sharply during the first half of 1950, until stocks were depleted while awaiting the new clip.

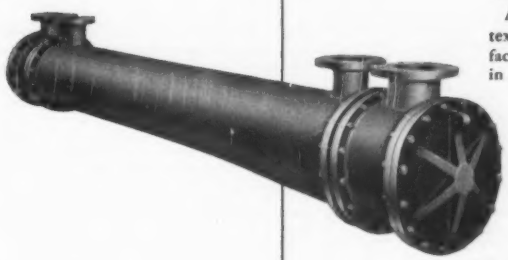
Australia — Cotton-yarn production increased from 27,520,000 lb. in 1949 to 31,700,000 lb. last year. Imports were halved. Cotton-fabric production increased sharply, while wool-yarn production dropped. Filament and staple imports fell from 12,000,000 lb. to 8,900,000 lb. in 1950. The difficulty was in

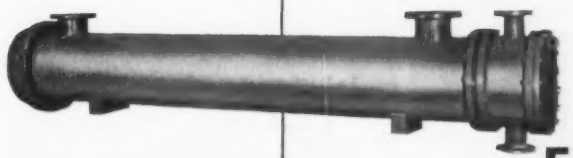
Excelling and Saving

IN HEAT TRANSFER JOBS THAT FORMERLY REQUIRED CUSTOM FABRICATION









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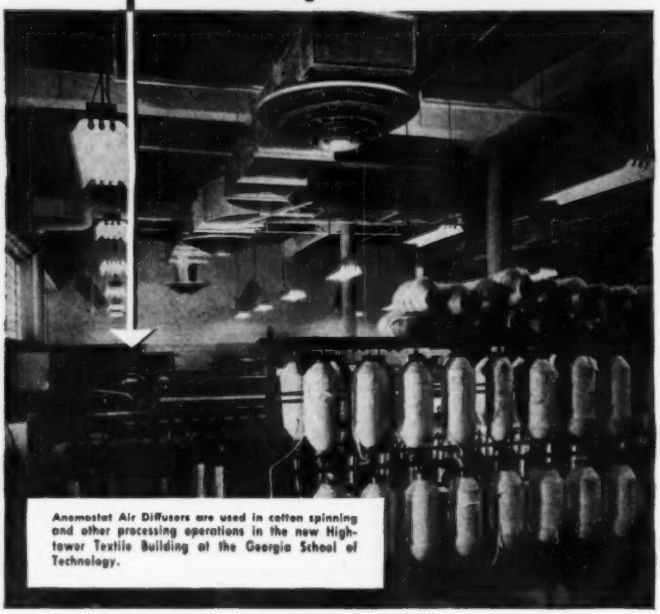

Anemostat Air Diffusers are used in cotton spinning and other processing operations in the new High-tower Textile Building at the Georgia School of Technology.

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obtaining yarns from the major supplier, Britain, and national restrictions on dollar purchases as replacements. There may be a rayon shortage in 1951 because of the inadequacy of the foreign supply. The new Courtaulds (Australia) Ltd. yarn and tire-fabric plant is to be completed toward the end of the year. In the raw-wool market, 1950-1951 prices at auction in the opening sales of the new clip last fall (spring in Australia) were more than 40% above closing sales in June, and continued on to record highs with the resumption of bidding in January.

Austria—The Lenzing Staple-Fiber Rayon Works (Zellwolle Lenzing A. G.) reached a new record output of 2,151,200 lb. last September, over twice that of September, 1949. Exports are being made to the United States and India. Of the 80,000,000-lb.-per-year over-all production, more than 1,000,000 lb. per month is coming to the United States. The Sankt Poeltan (Russian zone) filament-producing factory, Austria's only one, still remains outside the realm of Austrian jurisdiction and statistics.

Belgium—There are 11,000 wool looms in Belgium, and in the past year wool-yarn production has risen from 74,000,000 lb. to almost 79,000,000 lb. Wool-fabric production rose almost 7,000,000 lb. to 51,600,000 lb. Cotton and rayon yarn and fabric increases were comparable percentagewise. Clothing manufacturers are now able to supply the bulk of domestic requirements. Rayon manufacture is under the control of the Union des Fabriques Belges de Textiles Artificiels S. A., known as "Fabelta." Filament- and staple-producing plants are located at Alost, Anderlecht, Ninove, Obourg, Tubize, and Zwynaerde.

Brazil—Many textile statistics have not been brought up to date since 1946. Only one-sixth of the 300 or so cotton mills worked more than one shift in 1949. There were two Sanforized-process machines in Sao Paulo last year. Textile-machinery imports in 1949 totaled almost 43,000,000 lb. and were valued at $28,650,000. The first six months of 1950 saw $8,980,000 worth come into Brazil. Local rayon manufacturing is strong and stable, except in tire cord, which is not yet produced in sufficient quantity. At the moment, a considerable shift in emphasis from viscose filament to viscose staple and tire cord is envisaged. Higher world natural-fiber prices are the reason. An additional 22,000-lb.-per-day increase in rayon capacity is forecast for Brazil by the end of 1951.

Britain—In 1949, British wool-textile exports accounted for nearly 7% of all U. K. manufactured-products exports. One quarter of the over-all production was exported, about 45% to hard-currency areas. In 1950, wool-yarn production expanded from over 240,000 lb. to 555,000 lb., and wool-fabric output from 284,000,000 sq. yd. to 398,000,000 sq. yd. (excluding blankets). Wool-fabric exports rose in 1950 also. In rayon manufacturing, greatest capacity increases have been in staple. A 36-machine

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Established 1870

OFFICES IN PRINCIPAL CITIES

continuous-spinning viscose-yarn factory was recently set up by Courtaulds Ltd. at Carrickfergus, Northern Ireland. The supply of nylon yarn continues to fall short of requirements. The production of hosiery machinery is being expanded by the Bentley Engineering group, largest of its kind in Britain. New facilities are being provided at Leicester and Coalville, where knitting-machine needles are manufactured. Most of the production goes into export.

Burma—Burma's new cotton mill recently completed by Lockwood Greene Engineers, Inc., New York, is now getting into production. Both American raw cotton and $1,750,000 worth of cotton yarn have been allocated to Burma under the ECA program. Lack of foreign currency was the basic reason for a textile shortage during the past year. Burma's economy, damaged badly during World War II, has suffered further from armed insurrection over the past two years.

Canada—Textile-machinery and -product controls were still in effect in Canada at the turn of the year in spite of the improved currency situation vis-à-vis the American dollar. The balancing of Canadian accounts through diversion of business from the U. S. to Britain has not been entirely successful. High British prices and delivery delays have hindered Canadian textile-mill expansion as planned. The last six months of 1950 saw accelerated production in synthetic-yarn and -staple manufacturing. It is understood that Courtaulds (Canada) Ltd. plans to enlarge its staple-producing facilities at Cornwall, Ont. American rayon yarns, not available in quantity, are still in big demand because of their excellent quality and weavability.

Chile—Compañia Textil Andina, producing cotton and spun-rayon yarns, is expected at top capacity to produce between 176,000 and 220,000 lb. of yarn a month. Production is on 30s to 80s yarns, singles and in ply. Another Chilean plant that offers additional evidence of local textile independence is the $4,000,000 Jorge Hirmas y Cia. plant near Santiago. Combed and carded cotton yarns (16s to 60s) and medium- to high-count fabrics are produced. All processing machinery and air-conditioning equipment are of American manufacture.

China—At the turn of the year, the Economic Cooperation Administration authorized the Chinese Nationalist government to purchase $1,200,000 worth of consumer textiles for shipment to Formosa by the Chinese New Year (February 6). The Dept. of Commerce has prohibited the export of goods under general license to the Chinese mainland, Hong Kong, and Macao—as well as commodities of strategic value.

Cuba—Rayon production in Cuba increased by 71% during 1950. Imports from the United States and Switzerland also increased at the same time the domestic producer, Rayonera Cubana, raised its production rate to 9,000,000 lb. per annum in tire cord and fabric, 3,300,000 lb. in filament yarns, and 7,200,000 lb. in staple. The company is competing favor-

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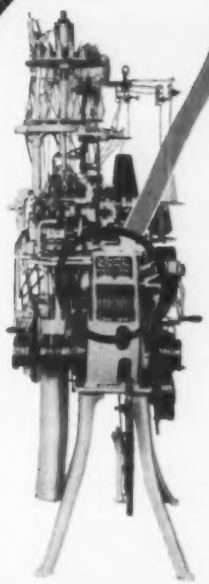
No, you won't find "VERSATILITY" on the nameplate. You *will*, however, find it in the products.

Hemphill Banner Wrap-Reverse Machines offer you practically unlimited style, pattern and color selectivity for the most salable, most distinctive fancy hosiery for men and boys.

This Hemphill Model 29A-ESJ-47 knitting machine produces Banner Wraps automatically in as many as 18 wrap colors to accentuate normal and reverse plaited designs — and all in a single, non-stop operation. Its versatile, efficient, and economical production includes argyles, checks, overplaids, diagonal wraps, plain stripes, fancy and 3-color clocks, normal or reverse plaits in angles up to 180° and back . . . all with the exclusive non-roll, non-slip Banner-Lastic tops.

The full story . . . the "VERSATILITY" details . . . the plus-profit potential of Banner Wrap-Reverse Machines . . . are available to you from your nearest Hemphill Sales Engineer. Ask today to have him call. Address Dept. 1



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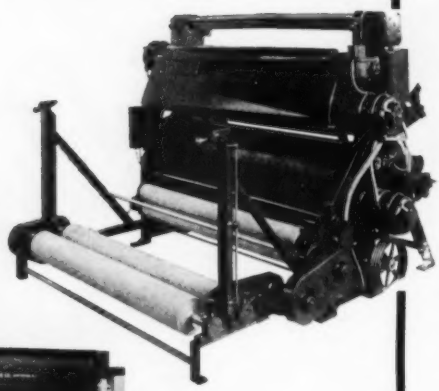

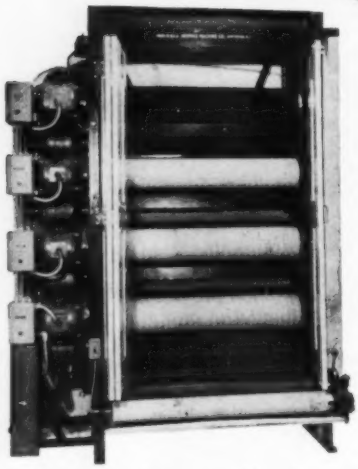

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For all weights of goods from duck and tropical worsted to seersucker and organdy. Removes all threads from both selvages and face and back of goods at one pass with operating speeds of 100 to 120 yards per minute.

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Does a fast, efficient cleaning job in removing mote, leaf, and dirt from all types of constructions of cotton goods.

Calibrated control levers give graded pressure for heavy or light brushing or sanding.

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Each brushing roll has its own motor. All rolls start and stop simultaneously in response to a single control. The brush stops automatically whenever the shear stops.

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ably in the exporting of rayon to other countries. Mexico is Cuba's best customer at the moment.

Egypt—Egypt is the second-largest cotton-exporting nation. A 200,000-bale increase over the 1,650,000 bales exported last year appears probable. A governmental declaration of independence from the American cotton market, in which exports were restricted this past fall, has been made. It is reported Egypt has made an £18,000,000 profit on the sale of cotton since 1944. Imports of rayon yarn of all types totaled almost 14,000,000 lb. in 1949. During the first half of 1950, stockpiling of foreign filament yarns took place. Cotton, in ample supply, was substituted for rayon staple as rayon prices rose and foreign sources of supply became uncertain.

France—Roubaix woolen mills have caused a shortage of rayon-staple fiber by buying heavily for mixture in wool-blend suits this winter. Foreign wool continues to furnish over 90% of the country's needs. Rayon piece-goods production was 10% higher during the first half of 1950 than the same period in 1949. Staple production remained about the same as 1949, while filament-yarn output fell 10%. Rayon exports increased considerably, however, with a five-times larger amount of staple going to the United States than before. Monnet-Plan rayon deliveries to the domestic market were only halfway met. Cotton-mill production showed the greatest gains, and was hindered from attaining close to maximum capacity only by a lack of raw cotton. Over-all textile-machinery requirements in France were seen as 780,000 spindles and 19,000 looms this year. Domestic capacity for only half the needed equipment is available. Production of Rilsan, the new nylon-like super-polyamide fiber with a castor-oil base, has been delayed because of capital, equipment, and material requirements.

Germany—This year textile prices in West Germany dropped to 193% of the 1938 level, compared to 212% in 1949. The early 1950 general price index was 160%. In 1950, cotton consumption ran 35% over the previous season. The textile-manufacturing firm, Textilmaschinenbau G. m. b. H. of Guenne in Westphalia, has developed an all-purpose 4x4-box pick-and-pick loom and a 4x1-box and a single-box cam loom. Widths are from 42 to 106 in. in the reed. German rayon-staple manufacturers during 1950 eased off on plans for expansion, but may change plans again now. Rayon plants now employ 35,000 persons. The Schachenmayr-Mann factory in Salach, Bavaria, is offering Perlon in staple form for the first time for use in blended fabrics as a strengthening medium. There is a growing textile-machinery-manufacturing activity in West Germany. The rate of production of full-fashioned hosiery machines is at the moment less than 50 per year.

Greece—By mid-year, 1950, the Greek combined agricultural and industrial economy reached its 1938 level of production. Aid granted by the United States from

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An Effective Cation Active Softening Agent for Uniform Finishes

Lupomin (Improved) is the latest development in textile softeners suitable for use on a wide range of fabrics. A very small quantity of Lupomin gives a supple and smooth hand and assures drapy fabrics with an odorless finish. Lupomin is equally effective in a neutral or acid bath and mixes with gelatine, gums, starches and dextrines. For brighter shades, fast colored discharges, Lupomin will save you time and money when used on cotton, linen, silk, wool, synthetic fibres and mixed fabrics. It is available in both paste and powder form. Complete data on the versatility of this effective softening agent as well as a sample for a test run may be had for the asking.

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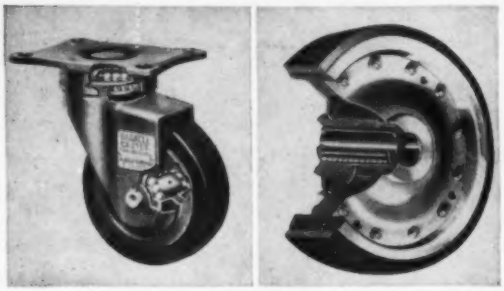

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January 1945 to June 1950 exceeded $2,000,000. Expansion and modernization of the textile industry is planned, envisaging eventually a $5,000,000-product surplus in wool fabrics, for example, for export to neighboring countries.

Hungary—Through censorship comes a report that 1950 Hungarian woolen-textile production has increased. Wool-fabric output is said to be up 15% over the 1939 level. The 1950 "target" was set for a 12 to 13% increase over 1949. In cotton manufacturing, a 45% yarn-production increase was claimed over 1939, and a 15% cloth increase. Confusingly enough, in a recent budget debate, the Minister of Light Industries reported a 30% increase of textile production over 1949; while "productivity" in the textile industries, according to a report on the first two years of the Five Year Plan, had risen by 112% in 1950. (Or should we read the last phrase as "to 112%"?). No information is available on synthetic-yarn and -fabric production.

India—A rayon-producing plant has been built at Perambavoor in Northern Travancore. It is designed to produce at a rate of 11,000 lb. a day. Another primary rayon plant has been set up in Hyderabad and another in Bombay. The three units will have a daily production capacity of 40,000 lb. Normal annual requirements are about 20,000,000 lb., and most of this amount has to date been imported from abroad. Investigation has revealed that the "eeta bamboo" grown in Travancore-Cochin forests is well suited for basic wood-pulp. A jute-purchasing board has been set up in West Bengal to "beat" the black market in India's chief dollar earner, jute, and to insure adequate supplies to India's 113 jute mills. Cotton exports from India are expected to be lower in 1951.

Italy—Production and export of Italian synthetic yarns and fibers reached the highest level of the post-war period in 1950, about 2,200,000 lb. Staple-fiber demand increased more than enough to offset a decrease in rayon-filament shipments. Because of the over-all cotton and wool shortages, 1951 should be a good year both for rayon yarns and fibers, and for rayon piece goods. The nylon-output rate in 1950 about doubled that of the previous year. Nylon at the moment is produced by only one firm, Società Elettrochimica del Toce, in which the Montecatini chemical firm has about a 50% interest.

Japan—Cotton piece-goods exports for 1950 were expected to reach over 1,000,000,000 sq. yd. In September the number of operating cotton spindles averaged 3,851,862, running 96.2% of capacity average-operable spindles. Japan has allocated production facilities to 25 new cotton spinning mills, with a total of 229,084 spindles. There are now 4,010,845 cotton spindles installed in Japan, and 50,460 cotton looms. The Japanese quota of American cotton for seven months through March of this year was only 550,000 bales. During the first nine months of 1950 Japan received 1,130,541 bales. Rayon

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77 Years of Progress

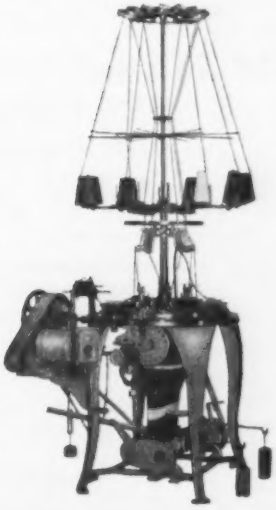
YESTERDAY

Pictured at the right—the building where we started in 1873, Canal and Depot Streets, Manchester, N. H. We occupied the first floor only.

TODAY'S LEIGHTON PLANT

And here, at the left, is a view of today's Leighton Plant, producing modern Leighton Machines used throughout the world.

Two early Leighton Machines. Left, Leighton Hand Rack Sleever. Right, Leighton Full Cardigan Jacket Machine.



The modern Leighton automatic Transfer Machine is the most versatile knitting machine built for outerwear knit fabrics. Larger size machines most suitable for cut garments and small size machines adapted for seamless garments.

Also in demand is our Three Needle Selective Rack Machine for 1&1, 2&1, or 2&2 cuffs, rib bottoms, and collarettes.

Leighton Machines are custom built with multiple feeds, two speed control, two or three color stripes and with brushing attachment for brushing garments as they are knit.

Machines in all sizes—Fine or Coarse Gauges

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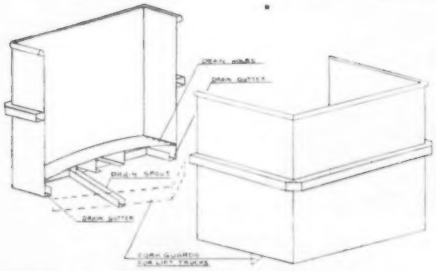

Curved bottom drains liquids to sides.

Gutters at sides lead liquids to drainage ducts at either end and discharge toward bottom center of the truck.

NEW *Stainless Steel*

DYE HOUSE TRUCK

with Controlled Drainage

For better handling of cloth and more healthful conditions, efficient dyers are using a new type GLASCO Stainless Steel Truck that drains continuously toward the center of the truck.

Effects of this dual drainage are:

1) Truck handlers can stand close to the truck when loading without having water drip on their feet.
2) Goods are *laid* in the truck, not tossed at arm's length.
3) Health conditions are greatly improved.

With the addition of simple guards, drain truck may be rapidly transported by fork lift trucks.

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production jumped in 1950. The increased production of other synthetics, such as Amylan, Vinylon, and Kanebian is also expected this year. SCAP has abolished the over-all restriction of 733,000 spindles and 815 sets of cards in woolen and worsted plants.

Mexico—The Celanese Corporation of America's two Mexican affiliates increased their output nearly 75% in 1950. Celanese Mexicana, at Ocatlan, raised its 12,000,000-lb. annual rate of acetate filament by 2,000,000 lb., in addition to about 6,000,000 lb. of staple. Viscosa Mexicana, at Zacapu, was reported as producing 6,000,000 lb. of staple at the year's end in addition to its regular 7,000,000 lb. of filament. Plans for 1951 include a production at Ocatlan of 20,000,000 lb. of acetate filament and 8,000,000 lb. of staple. At Zacapu, an output of 12,000,000 lb. of filament and 12,000,000 lb. of staple is foreseen. Tire-cord yarn may be available in 1951.

The Netherlands—The phenol factory of the Netherlands State coal mines at Lutterade (Limburg) is about completed. Output is destined for the new Enkalon and Akulon factory of Algemene Kunstzijde Unie N. V. (AKU) of Arnhem, at Emmen. These new Du Pont-like products are made under a formula that varies slightly from the licensed American nylon process. Phenol is made from benzol in a new process developed at the coal-mine laboratories. Enkalon, expected to be in production by the end of this year, will be produced in filament and yarn form. Akulon is the hard product that is to be used in the production of machine parts, bearings, and other surfaces. AKU is also helping in the preliminary production of straw cellulose being developed by its affiliated company, N. V. Sove.

Norway—Although Norway has imported some textile equipment since World War II, and some mills are quite modern, machinery in general is not up-to-date. Exchange shortages have hurt plans for general improvement over a short period of time. Norway depends on imports for raw cotton, and exports of rayon staple as a foreign-exchange producer. More rayon is now being used domestically instead of high-priced cotton alone. About 60% of Norway's wool requirements are imported. Most of the domestic wool supply is used in home-made yarns, fabrics, and rugs.

Pakistan—Annual requirements of cotton yarn and cloth in Pakistan are said to be 60,000,000 lb. of the former and 450,000 linear yards of the latter. At the time of partition, Pakistan had 14 mills and 165,000 spindles. Plans are now for about 80 mills with 2,000,000 spindles. Japanese textile-machinery manufacturers are leading in supplying equipment to the new mills. Raw-cotton exports to the world from Pakistan probably will approach 1,000,000 bales this season. The annual production of wool is about 35,000,000 lb. Most or all of it is exported abroad.

Peru—Exports of sheep, alpaca, and llama

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Want to make better goods . . . faster . . . cheaper? You can do it with Wyandotte "high-light" Kreelon*. That is, *if* you use Kreelon creatively. Here's what we mean. Kreelon is highly soluble in water . . . more *totally* soluble than any other detergent of this type we've tested. That means Kreelon is easier-rinsing. Creative suggestion: experiment with the time period allotted to rinsing, the amount of water you use, and its temperature. Chances are you'll save money on water and fuel.

Here are some facts on "high-light" Kreelon for your creative use: Kreelon is stable in acid, alkaline or neutral solutions. (Suggestion: you need not scour in an alkaline media.) Kreelon works more quickly than soap in most operations and at lower temperatures. (Suggestion: you can reduce processing time in scouring, dyeing and acetate saponification.)

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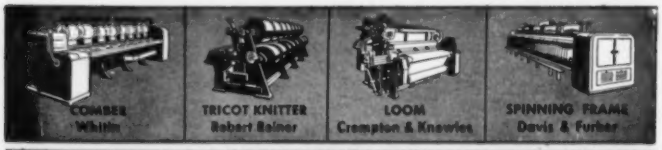

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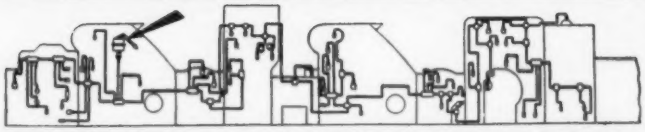

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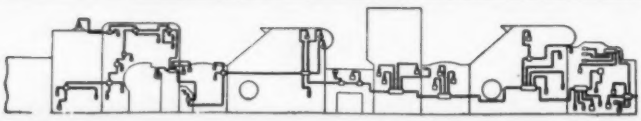

time on the picker

By creating one lubrication source (arrow) for 100 points of lubrication, the Bijur system makes it possible to oil all bearings at once *while the picker is operating.* Operating the lubricator force-feeds a measured amount of filtered oil through a single-line distribution system, branched to reach all 100 points. A positive method of Meter-Unit control provides each bearing with the correct oil film *automatically*.

Central Oiling Means Savings

Compare the time saved by Bijur-lubricating 100 bearings with the time wasted by hand-oiling each bearing individually. Contrast the reduced wear of Bijur-oiled bearings against the break-downs resulting from "starved" or "forgotten" bearings. And when you consider that down-time for oiling is converted into more time for production, you can see how the Bijur system pays for itself in a short time.

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When you specify Bijur, you are assured of built-in bearing protection. This central lubricating system has been designed into the products of the leading manufacturers of textile machinery, and has proved its value among top textile mills (names on request). For further details, write for Bulletin 6A, "Metered Lubrication of Textile Machinery."

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LUBRICATING CORPORATION
ROCHELLE PARK, NEW JERSEY

wool rose in 1950. Prices were good for quality wools in both the United States and British markets. Domestic production rates in textiles remained about the same in 1950 as in 1949. In the primary rayon field, Oscar Kohorn & Co. Ltd. of New York contracted late in 1950 to expand the spinning capacity of the filament-rayon plant of Rayon Peruana S. A. in Lima. The new plant capacity will be 2,500,000 lb. per year, and is expected to make Peru self-sufficient in this type of yarn.

Portugal—Primary rayon manufacturing is centralized in the Oporto region. Production in 1950 was expected to total 1,430,000 lb., a new record. Three firms produce viscose continuous-filament yarns in 60, 100, 120, and 150 deniers. Staple is not known to be produced in Portugal. During the first half of 1950, filament-yarn imports still supplemented local production. A new plant will in 1951 produce an additional 730,000 lb. per annum of tire-cord yarn and fabric from its own, from local, and from Italian-made yarns.

South Africa—The Directorate of Census and Statistics in South Africa has no textile-manufacturing data available for either 1949 or 1950. All mills appear to be in league against divulging any of their activities, production, or lay-outs. They do admit of their own existence, however. Berkshire Knitting Mills plans to start producing 51-gage hosiery on 26-section machines at its East London, South Africa, plant next month. Hosiery was formerly sent in the gray to East London from Reading, Pa., for dyeing, boarding, pairing, folding, stamping, and packing.

Spain—Cotton yarn and cloth production increased favorably in Spain in 1950. But largest increases were reported in the number of wool spindles installed during the year. About 1,000 woolen mills are in operation, with a total of 68 wool-scouring plants available in the country. The exportation of raw wool is prohibited. The use of United States equipment in wool manufacturing is almost nil. With modern machinery and plenty of raw materials (and hard currency), Spanish wool-manufacturing output could be doubled.

Sweden—Wool manufacturers in Sweden have modern equipment but inadequate local raw-wool stocks, in spite of a governmental subsidy on raw-wool production. Inadequate foreign exchange hampers using bilateral-trading agreements to their fullest. Cotton manufacturing in 1950 increased the amount of its product favorably. Both filament and staple rayon-yarn imports were reduced materially as local rayon-staple production jumped in 1950 to over 25,000,000 lb.

Switzerland—Exports of textile machinery from Switzerland went up about 20% in 1950. Domestic wool production reaches about 450,000 lb. annually, out of a needed 20,000,000 lb. The balance is imported, the largest part from Australia. Production of rayon filament and staple rose to about 34,000,000 lb., to help alleviate high prices on world markets of cotton, wool, and silk. Cellulose comes from

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READ THE ADS.

both Sweden and Finland. A new nylon plant is to start production early this year. Domestic nylon demand is seen as 440,000 lb. annually. Any surplus from the new plant will be exported.

Turkey—Turkey produces more than enough cotton for its own use. The Sumer Bank, a state organization that now owns about half the cotton spindles (there are about 280,000 in the nation) and cotton power looms (there are about 6,000 in the nation), plans to increase both spindlage and looms during 1951 and 1952. One existing mill is to be enlarged and three new ones constructed. No information is available on privately owned cotton-mill 1951 expansion plans.

Uruguay—The compilation of local textile statistics has been curtailed for the lack of funds. Wool-yarn spindlage in 1950 appears to have dropped considerably from 1949. Production of rayon woven and knit goods, as well as the spinning of spun-rayon yarn, continued active in 1950. Sudamtex del Uruguay at the turn of the year started producing its own rayon yarns in its plant at Colonia, 125 miles from Montevideo. About $600,000 a year is expected to be saved for Uruguay by its getting into primary rayon-yarn manufacturing.

U. S. S. R.—The Soviet Union reported its 1949 cotton crop as greater than the 1940 level of less than the equivalent of 4,000,000 U. S. commercially ginned bales. Doubling of output is envisaged in a few years. Since World War II, Russia has been able to take care of its own and its satellites' cotton needs because its own cotton yarn and fabric production has stayed below pre-war levels. In 1949, Russia bought more than 25,000 bales of cotton from the U. S., and early in 1950 arranged to purchase the equivalent of 44,000 U. S. bales from Egypt in exchange for wheat. Uzbekistan in Central Asia is supposed to grow the equivalent of 6,000,000 U. S. bales by 1953.

Books of Interest

Solvent Data For Reference Purposes

INDUSTRIAL SOLVENTS, 2nd Edition, by Ibert Mellan; Reinhold Publishing Corp., 330 West 24th St., New York; cloth, 758 pages, $12.

The purpose of this book, which is well taken and implemented, is to organ-

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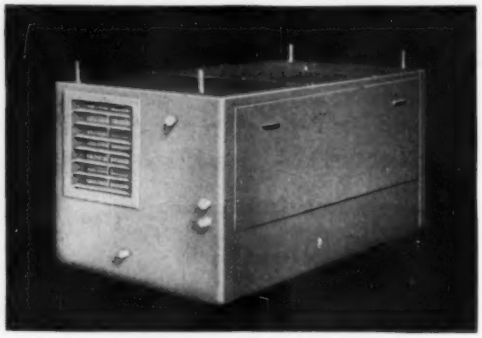

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Cotton Fires Can Be Reduced

SURVEY ON CAUSES AND PREVENTION OF COTTON FIRES, Report No. 8, National Board of Fire Underwriters, 85 John St., New York 7; paper, 34 pages, no charge.

This fire-hazard survey on cotton includes fact-filled chapters on cotton production and fire losses, observations and opinions on contributing causes of fire, conclusions, and recommendations. Suggestions are made on fire-control education and technical research studies to be undertaken. Numerous photographs of fire hazards in the handling of cotton are given, as well as examples of modern fire-fighting equipment and lay-outs.

Statistical Study For Slide-Rule Men

TECHNOLOGICAL APPLICATIONS OF STATISTICS by L. H. C. Tippett; John Wiley and Sons, Inc., 440 Fourth Ave., New York 16; cloth, 189 pages, $3.50.

This book is a compilation of a series of lectures delivered at Massachusetts Institute of Technology by an English statistician. It is an introduction to statistical methods applied to technological problems. Included are routine control of quality and the measurement-of-quality theory of control charts, procedures to follow in getting up a statistical chart, accepted sampling methods, and control of the fraction defective. Appropriateness of various statistical models are discussed. Examples of several textile applications of the techniques are given.

Chemical Producers Alphabetized

McGRAW-HILL DIRECTORY OF CHEMICALS AND PRODUCERS, 1951, by McGraw-Hill Publishing Co., 330 West 42nd St., New York 18; cloth, 558 pages, $20.

For many years there has been a need for an accurate index of chemicals that confines itself to primary producers and

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J. S. Furtado	Box 803	Fall River, Mass.

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manufacturers. Here is such a directory. The reader can find within the covers of this book a list of American chemical manufacturers, the chemicals they make, and the grades of those chemicals produced by them. The alphabetical listing starts by products, including trade names. A directory of producers and manufacturers, with their addresses and products listed, make up the final 30 pages of the book.

Annual Review Of TI Activities

YEAR BOOK OF THE TEXTILE INSTITUTE, No. 3, 1950-51, by The Textile Institute, 16 St. Mary's Parsonage, Manchester 3, England; paper, 246 pages, 10 shillings to non-members.

The third Year Book of the Textile Institute contains much British textile information and general technical data, as well as an outline of the objects, aims, and activities of the Institute. Of especial interest to American-mill readers will be the sections on standardization of textiles, textile terms and definitions, and conversion data.

Detailed Study Of High Polymers

NATURAL AND SYNTHETIC HIGH POLYMERS, 2nd Edition, by K. H. Meyer; Interscience Publishers, Inc., 250 Fifth Avenue, New York 1; cloth, 891 pages, $15.

This volume IV in a series of monographs on the chemistry, physics, and technology of high-polymeric substances is a revised edition that is 216 pages fatter than the original 1942 edition on natural and synthetic high polymers. Almost all the remaining text has been rewritten in the light of new concepts, new groups of polymeric substances, and new applications both here and abroad.

As in the first edition, the author reviews the whole of the available material on polymer (macromolecular) chemistry from a critical standpoint. Mr. Meyer warns against the too confident use of the so-called quantitative theories that are based upon more or less inadequate models.

This is definitely a textbook that long-term textile-research personnel should have available somewhere nearby.

Answers to Textile Quiz On Page 180

1. b. [TW, Dec., '50, p. 103]
2. c. [TW, Dec., '50, p. 106]
3. d. [TW, Dec., '50, p. 109]
4. c. [TW, Dec., '50, p. 111]
5. d. [TW, Dec., '50, p. 113]
6. b. [TW, Dec., '50, p. 122]
7. a. [TW, Dec., '50, p. 124]
8. d. [TW, Dec., '50, p. 126]
9. d. [TW, Dec., '50, p. 129]
10. c. [TW, Dec., '50, p. 144]

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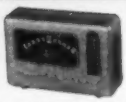

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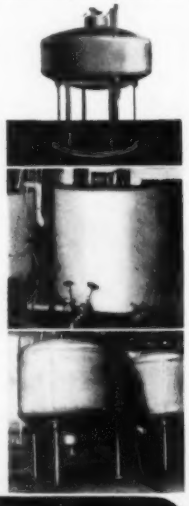

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Mill Maintenance

Antifriction Bearings Require Care in Handling

Proper installation of an antifriction bearing will increase the life of the bearing and insure trouble-free operation. The following pointers on handling and installing an antifriction bearing should be carefully observed.

1. Cleanliness

Before the new bearing is removed from the package, make certain that your hands, tools, and workbench are thoroughly cleaned. It is a good idea to place a piece of clean paper on the bench to keep the bearings from coming into contact with the workbench. Do not open the package until everything is clean and you are ready to mount the bearing. It is advisable to handle the bearing in the most lint-free and dust-free part of the room that is convenient.

2. New Bearing

Never try to clean a new bearing nor to remove the coat of grease that was put on the bearing for protection.

Check the bearing to make certain that it is the proper size for the shaft and housing.

3. Mounting the Bearing

A hammer should never be used to drive a bearing on the shaft or in the housing by striking the inner or outer race ring. The best way to tap the bearing into place is to hold a metal tube against the inner race ring and in contact with the shaft or housing; force the bearing into place with an arbor press or a lead or wooden hammer. If a steel hammer must be used, it is an excellent idea to muffle the head of the hammer with cloth or rubber to guard against metal particles breaking off and flying into the bearing.

If the bearing fit is unusually tight, it may be necessary to heat the bearing in an oven or with an electric heater before it is placed on the shaft. In this case, never heat the bearing above 225° F.

In all cases, before the bearing is mounted, make certain that the shaft or housing is thoroughly cleaned and place a few drops of oil on the shaft or housing so that the bearing will slide into place easily.

4. Check the Fit

After the bearing is in place, check

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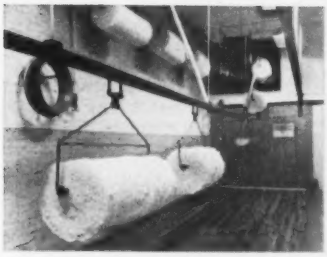

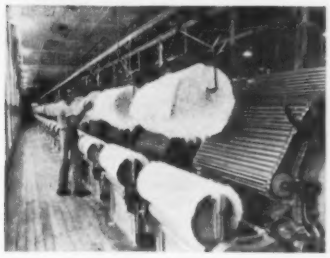

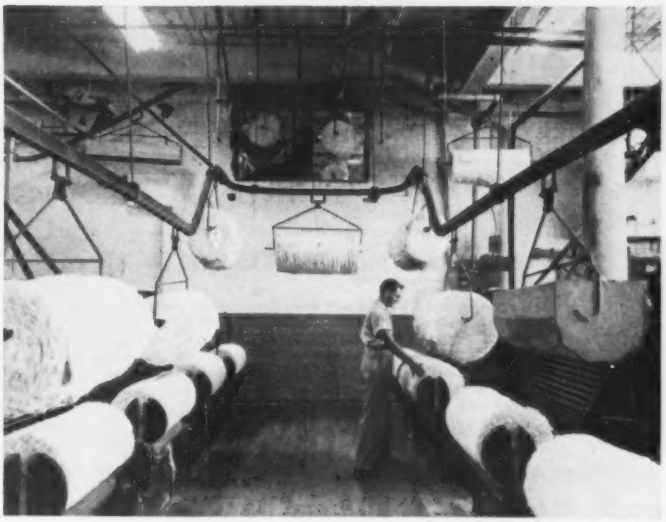

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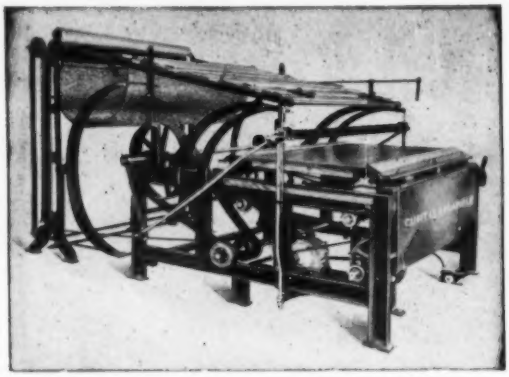

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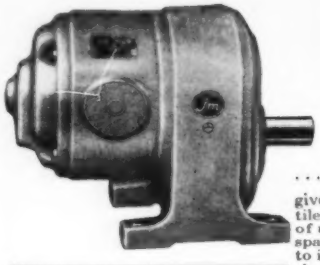

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the fit of the inner race of the bearing against the shoulder of the shaft. Make certain that it is a tight fit. Turn the bearing until you are satisfied that the outer ring of the bearing is perfectly free and does not bind the least bit at any point.

Nuts, spacers, end covers, etc., should be perfectly square with the axis of the shaft.

Make certain that the bearing cover fits properly so that it does not leave a space for dirt to get in. Make certain also that the cover does not bind the shaft.

Useful Accessories for Textile Mills

► **To request further information on any item, please use the card in the Reader-Service dept.; refer to the number at the end of the item concerned.**

Materials Handling

Battery-Operated Tractor

The Load-Mobile tractor has been announced by the Market Forge Co., Everett, Mass. The tractor is said to be highly efficient and economical for hauling trailers in either single or multiple loads. Because of its short 44-in. length, the Marforge Load-Mobile is especially adaptable to smaller plants where space is limited. The tractor is also useful in doing other jobs, such as lifting loads by rope and tackle and hauling various types of equipment. The tractor can be furnished with various types of hitches, either automatic or manually operated. (U-1)

Electric Cable Hoists

A new line of heavy-duty electric cable hoists has been announced by Cleveland Chain & Mfg. Co., Cleveland, Ohio. The hoists are manufactured in capacities from ½ to 5 tons. The trade name of "Bob-Cat" is used to designate the new line. An important feature of the Bob-Cat hoist is the total enclosure of the motor within the cable drum. This feature is said to reduce the over-all dimensions, to afford substantial weight savings, and to give complete protection against moisture and other exposure. The hoists are powered by high torque motors specially designed for use with Bob-Cat units. (U-2)

New Industrial Casters

A series of 41 and 42 Rapistan industrial casters has recently been announced by Rapids-Standard Co., Inc., Grand Rapids, Mich. These new casters, manufactured by the cold-forged process, are available in four wheel sizes in both swivel and rigid types. The cold-forging process is said to give a dense, highly polished wearing surface for long life and easy swiveling action. The manufacturers say that tests prove these casters wear longer than either stamped steel or hot-forged non-flame-hardened units. All models are equipped

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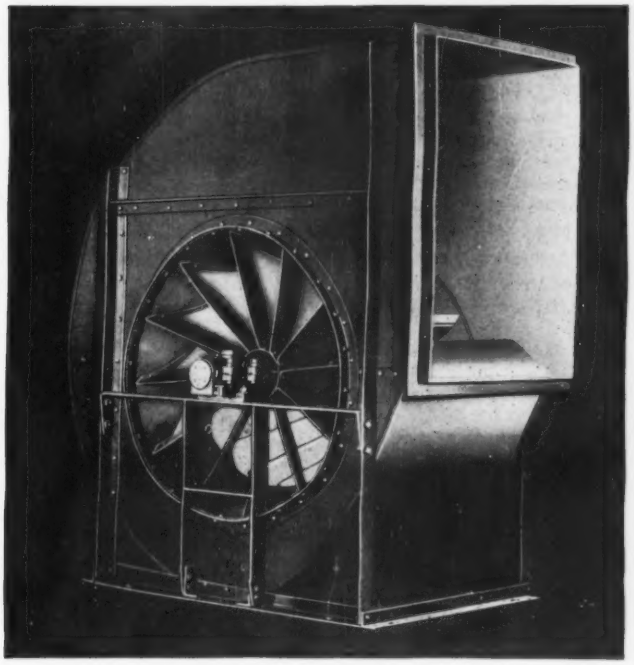

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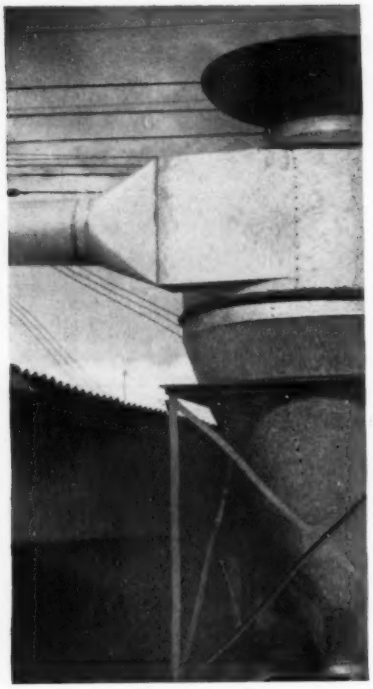

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- "Any hosiery mill producing monofil nylon must have your equipment to manufacture such stockings satisfactorily." APEX HOSIERY CO.
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with Zerk-type fittings and Hyatt-type bearings in the wheels. They are available in 4-, 5-, 6-, and 8-in. sizes. (U-3)

New Link-Chain Lift

A new model "Pul-Lift," a portable device for hoisting or pulling, has been announced by the Philadelphia division of Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia 15, Pa. By the use of link chain, the applications of the Pul-Lift have been multiplied to include many new maintenance and production-job possibilities in small and large plants, construction projects, and machine shops. The Pul-Lift is easy to operate, and the light-weight construction makes it easy to place in position. The unit is available in ½, 1½, and 3-ton capacities. (U-4)

Office Copying Machine

A new type of copying machine for the office has been developed by Charles Bruning Co., Inc., 100 Reade St., New York 13. The "BW Copyflex" is said to be the first machine specifically designed to make low-cost positive copies anywhere in an office. The BW Diazo process is used and is said to make copies rapidly, neatly, and easily. Much office paper work is thus eliminated. Desk-side copying, without special operator training, is accomplished by BW Copyflex entirely within itself. No inks, tray developing, dark rooms, or subdued or special lighting are needed. (U-5)

Maintenance

Bung-Bushing Barrel Pump

A new type of barrel pump, said to be a better pull pump for all-around can filling with light liquids, has been developed by General Scientific Equipment Co., 2700 W. Huntington St., Philadelphia 32, Pa. The pump drops into a regular drum opening and is held securely to drum. The thumb screw is tightened to lock both bung and pump with one operation. The GS No. 444 pull-type pump fits 1½-in. and 2-in. openings on 14- to 55-gal. drums. Construction is entirely of steel, except for the spout. (U-6)

Guard for Fluorescent Lamps

A combination safety-guard and -guide, designed to prevent fluorescent lamps from falling, has been announced by Koehler-Bird Associates, 2 Bradley St., Somerville, Mass. The new device, called Edison Lok-Gyde, is said to reduce by 80% the time required for installation of the usual fluorescent lamp guards. It also reduces maintenance costs by making re-lamping a one-hand operation. No tools are required for installation. In re-lamping, the device guides the lamp terminal pins into the sockets and then locks the lamp in place. (U-7)

New Rust Preventive

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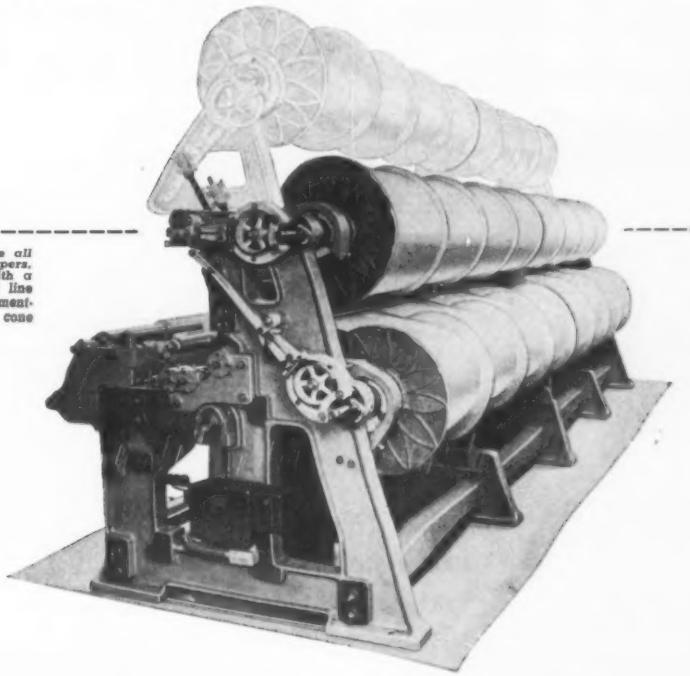

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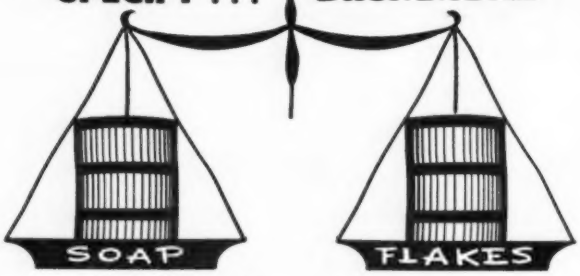

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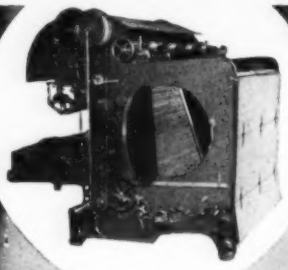

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been announced by Swan-Finch Oil Corp., RCA Building West, New York 20. The new product, Saf-Philm, is a solvent-type organic metal preservative that is fast-drying and that forms a colored (yet transparent) film within 15 min. The film is removable with kerosene or solvent. The tough, elastic polar film resists acids, alkalis, and abrasion. (U-8)

Plastic-Rock Floor Covering

A new development known as Superset Plastics Rock has been announced by United Laboratories, Inc., 16,801 Euclid Ave., Cleveland 12, Ohio. This material is designed especially for re-surfacing old floors of concrete, wood, or steel; and is claimed to provide a tougher, more durable floor for heavy-traffic surfaces of all kinds. The improved product is also said to be more rapid in hardening, and thus reduces application time. "Superset" is delivered in complete unit form containing all ingredients (except water) and ready for mixing on the jobs. (U-9)

Portable Fire Engine

A new giant fire killer for extinguishing flammable-liquid and electrical-type industrial fires has been announced by American-LaFrance-Foamite Corp., Elmira, N. Y. The new Alfco 350 dry-chemical, wheeled, portable engine, the largest unit of this kind now available, can easily be handled by two men. The tank of the engine contains 350 lb. of Alfco dry chemical. The entire contents can be discharged, if necessary, in about one minute and 15 seconds. Expellant is dry nitrogen, with a sustained operating pressure of 200 psi. during the entire period of discharge. (U-10)

Pressurized Fire Extinguisher

A new pressurized, one-quart fire extinguisher has been announced by American-LaFrance-Foamite, Elmira, N. Y. The extinguisher is designed to aim like a gun, and is equipped with a trigger-like action to hit fire instantly and accurately. Compressed air expells a vaporizing liquid. No hand pumping is required, and the extinguisher can be operated with one hand. Recharging is said to be easy. Pressurizing can be readily done with any standard air chuck exerting 150 psi. Extinguisher is designed for use on electrical-equipment fires and other small oil and grease fires. (U-11)

Thermosetting Floor Coating

A brush-on phenol-formaldehyde coating that hardens at room temperature has been developed by the Carboline Co., 7603 Forsyth Blvd., St. Louis 5, Mo. The material, Phenoline, is said to be easy to apply and to be two to nine times harder than conventional floor paints. Durometer readings of the coating are reported to be from 85 to 90, which can be compared with steel at 100. One primer coat and two finish coats are estimated to last from two to three years on steps and other surfaces where considerable

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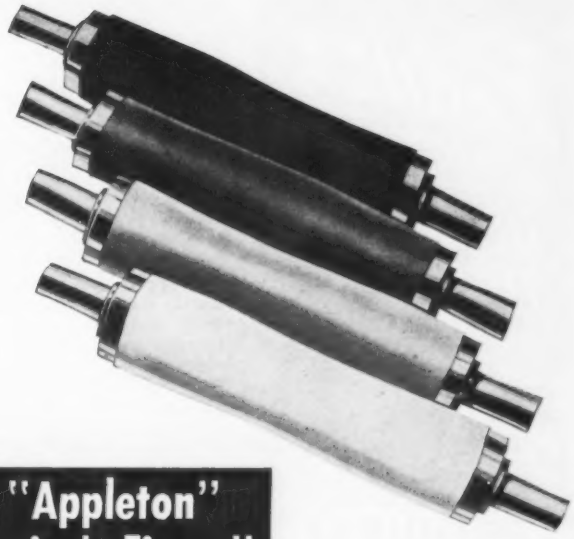

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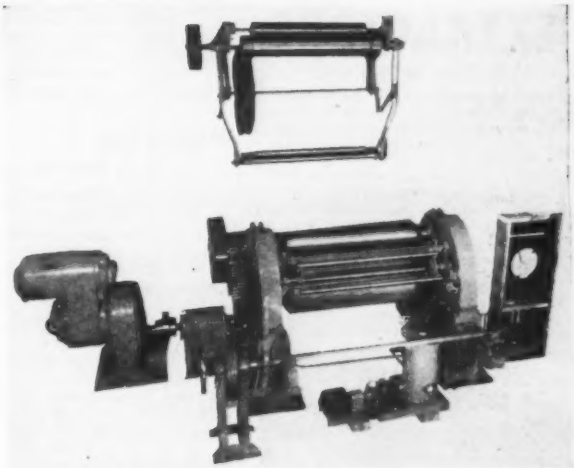

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walking (but not trucking) takes place. Colors available are brick red, chrome green, iron yellow, gray, and black. (U-12)

Engineering

Angle-Sight Feed Valves

A line of angle-sight feed valves as a supplement to Oil-Rite straight-sight feed valves, Style SFN, has been announced by Oil-Rite Corp., South 13th St., Milwaukee 15, Wis. The new valves are designed for pressure- or gravity-oiling systems, permitting a manufacturer to construct his own oiling system at low cost. Styles SFG and SFM have free-flow characteristics that allow the flow of oil to be visually checked and closely regulated. The valves can be used singly or can be gang-mounted. Oilers are light in weight because of their aluminum-alloy body. An exclusive method of gang-mounting the valves assures a leakproof and compact design. (U-13)

Flexible Couplings

A new series of flexible couplings has been announced by Lord Mfg. Co., Erie, Pa. These couplings were designed to meet the requirements of competitively priced mechanical products, and are of particular interest to users of electrical-driven equipment with ratings up to ¼ hp. at 1,750 rpm. It is claimed that a new coupling design reduces operating noise, absorbs torsional shaft vibration, and accommodates shaft misalignments of as much as 2° angular and ⅛-in. parallel. (U-14)

Machine Shop

50-Ft. Steel-Tape Rule

A 50-ft. steel-tape rule with automatic rewind has been introduced by Master Rule Mfg. Co., Inc., Middletown, N. Y. The new tape, called the Longboy, rewinds with a constant retracting torque at all lengths, and it is claimed that it takes but 10 sec. to rewind the full 50 ft. Simple thumb pressure on the center plate-button starts the rewind, and release of thumb pressure stops the action. The moving tape is under control at all times. Only one hand is required for manipulation. (U-15)

Both Metallic and Cushion Rolls Are Valuable in Drawing

My first experience with metallic drawing rolls was in the year 1898. A controversy started about this time as to the relative merits of metallic and cushion rolls. The dispute is still on.

The advent of composition roll covering greatly reduced one large advantage of metallic over the leather top roll. This factor was the cost of re-covering. Drawing rolls were generally covered with a spirally-wound leather cot which was very expensive

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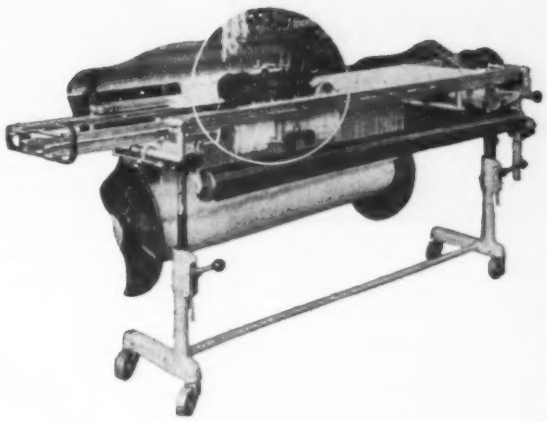

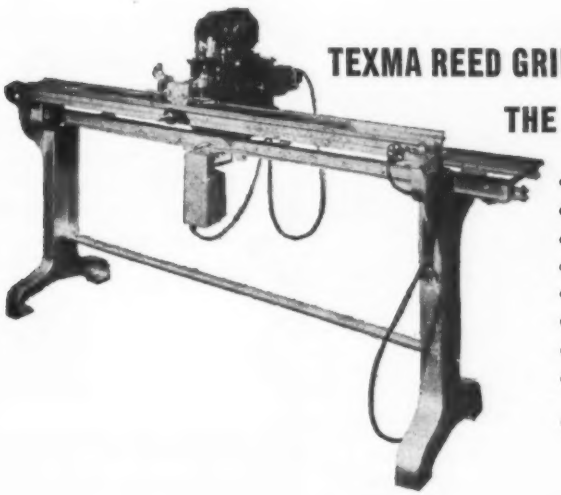

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to replace. Composition top rolls could be cheaply re-buffed when worn.

Even with the lower cost of re-buffing composition rolls, the element of maintenance cost is still strongly in favor of metallic top rolls. From my own observations of mills condemning and discarding metallic rolls, I would say that lack of suitable maintenance, neglect of proper scouring, and failure to set correctly were the chief reasons for faulty product delivered by these rolls.

Mills that are willing to change leather top rolls or re-buff composition rolls every few months, actually expected to run metallic rolls for years with no further attention than an occasional scouring. Flat worn spots on collars and variations in tension from web to web were pointed out as constructional faults of the metallic rolls. These are neither constructional nor engineering faults, but they are failures due to maintenance neglect.

A consideration of principles involved in the design of metallic rolls and their precision manufacture will show that with proper care and maintenance, these rolls on drawing frames should give long service. They should give uniform drafting-control from the thick grist at the back roll to the light web delivered by the front roll. Provisions are made in the rolls for the gradually reduced thickness of the strand from the back through the four drafting rolls to the front roll.

The back metallic rolls have coarse 16-pitch flutes with collars ground to permit 0.07-in. meshing of top and bottom roll flutes but to prevent bottoming of flutes. The next line of rolls are usually 24-pitch flutes with 0.06-in. meshing, and the next two rolls usually have finer 32-pitch flutes with 0.044-in. meshing. It is difficult to conceive a unit designed to give better fiber control in each successive drafting zone.

Some mill-men claim that metallic rolls are well suited for gripping and drafting the thick strand entering the back rolls, but that a cushion roll is required for the efficient drafting of the thin web in the front zone. These claims are apparently justified. Excellent results have been obtained on four- and five-roll drawing frames using metallic rolls on back lines and cushion rolls on the front lines.

So the long controversy regarding the relative merits of each type probably ends in a compromise. Each type has its place in the drawing frame drafting unit where it performs best. The use of metallic rolls in the back lines reduces the cost of cot replacement and the lower speed of metallics on back lines reduces wear on roll collars.

William Shaw, Providence, R. I.

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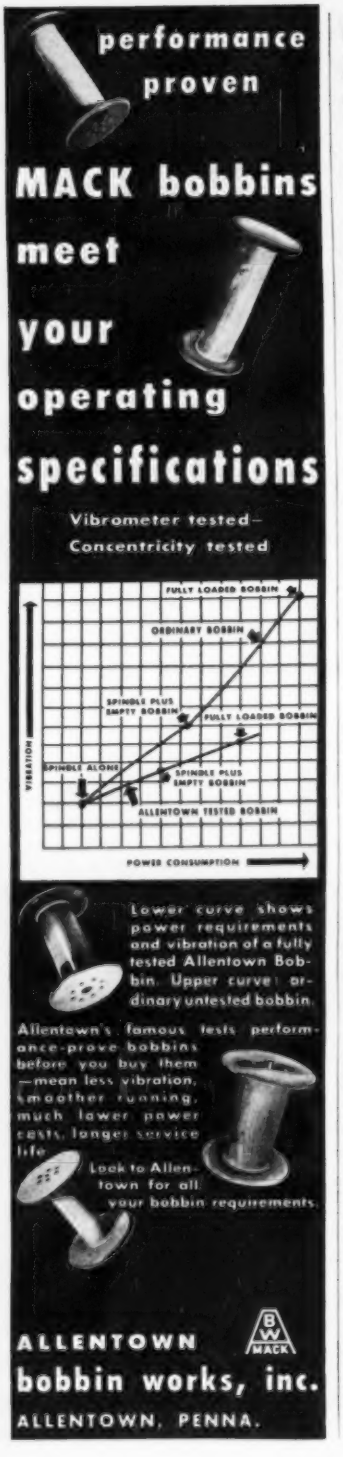
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Mills Can Profit From School-Teacher Visits

By MARTIN C. POWERS
Textile Information Service

DO TEACHER VISITS to textile plants yield the best possible returns to both educators and manufacturers?

There is a feeling in some circles that, while open-house events for school people are a tried-and-true method of creating a friendly, neighborly spirit in the community, thoughtful planning can give more point to such occasions and, in time, make them more beneficial to both groups.

During the last year, several mill companies have set up teacher visits, not as "run-of-the-mill" sightseeing trips, but as a program designed to bring education and industry closer together for their mutual good.

Four Pawtucket, R. I., textile firms took a leading part in a recent "Business-Industry-Education Day" program staged for more than 400 school teachers in that area. J. Colby Lewis, vice president and general manager of the Rhode Island plant of J. & P. Coats, Inc., served as chairman of the committee that arranged the program. Mr. Lewis said the purpose of the teacher visits was "to acquaint the administration staff and teachers of our schools with the industry within our community, thereby preparing our modern youth for the world of work and citizenship."

In addition to J. & P. Coats, Crown Mfg. Co., Hope Webbing Co., and Lorraine Mfg. Co. opened their doors to the teachers, along with seven other business and industrial concerns.

PROGRAM. An example of how the day's program was carried out was furnished by the visit of 50 teachers to Crown Mfg. Co. The party arrived in company buses late in the forenoon, met for "briefing," but then divided into units of six or eight persons each to make a tour of the plant production areas. Competent guides pointed out features of the firm's modernization program, such as the Uxbridge Gentle-Air slashing system and a new yarn-dyeing division equipped with materials-handling devices.

No opportunity was overlooked to call attention to efforts of the company to provide pleasant working conditions for employees. The teachers found ample means to see for themselves how profits can work to bring better equipment, better working con-

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in One Operation

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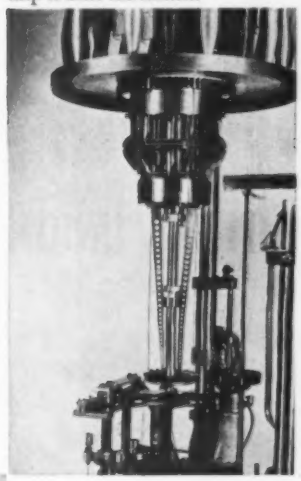
A special wrapping mechanism has been designed for this machine. Entire wrap head lifts out of upper cylinder, swings to side and down for instantaneous re-threading and pattern changes—what a help to fixers and knitters!



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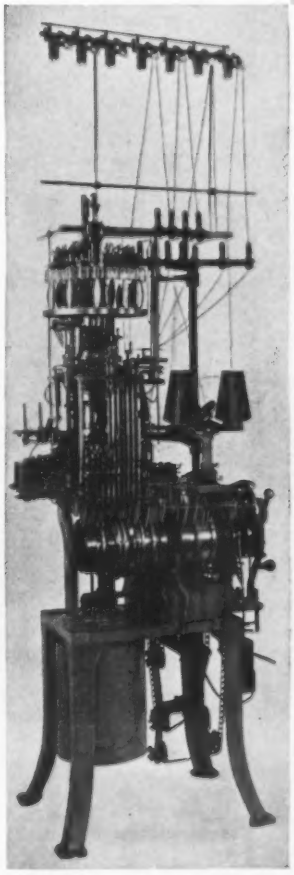
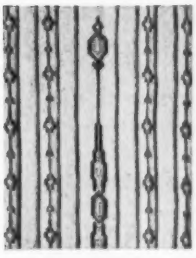
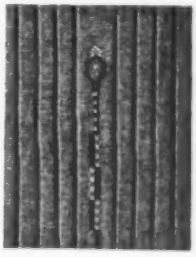
In a single automatic operation, the S&W Komet Wrap Machine knits broad ribs with color-in-color-and-beside-color effects *all around the stocking*. No need for slow and costly hand embroidery or swiss clocking machines.

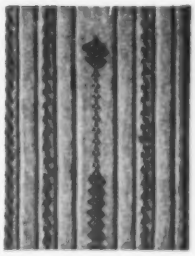
The S&W Komet Wrap Machine employs as many as twenty different wrap yarns and each yarn can wrap from one to twelve needles. Thus your wrap yarn costs and knitting costs per dozen are substantially reduced.

S&W Komet Wrap broad ribbed half-hose and slacks have the beauty *but not the high cost* of hand embroidered hosiery.









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ditions, better jobs, and more stable earnings for the company and community.

After a luncheon in the Crown cafeteria, the teacher group met for a discussion session led by Kenneth B. Cook, vice-president and general manager of the company; John S. Dickson, director of engineering; and Richard F. Cook, plant superintendent. They steered the talk away from details of manufacturing and emphasized industry's need for better-trained personnel possessing a keener understanding of management problems.

EDUCATION TIE-IN. Being a group of educators, the visitors were especially interested in the program of employee educational courses by which the company is living up to its informal name of "Crown College." Mayor Ambrose McCoy of Pawtucket emphasized the industrial relations values of the "Crown College" idea.

According to comments by several of the teachers as they concluded their visit, they left "Crown College" with a deeper appreciation of their responsibilities in preparing students for technical careers and a sounder knowledge of management's efforts to overcome obstacles to industrial progress.

The community-relations movement is being fostered through all industry by such organizations as the National Association of Manufacturers and the U. S. Chamber of Commerce.

A somewhat parallel plan was originated in New England during the last year. It is the school-and-industry workshops for teachers sponsored by a group of college educators and the Textile Information Service.

These workshops are being set up in accordance with a sustained, organized program aimed at helping teachers enliven their classroom work with practical, illustrative matter drawn from industry. A broader objective is to define more clearly the relationship of a student's textbook and class material with the realities of earning a living in our modern, competitive, industrial world.

"Science in Action" became the theme of the workshops. The first, accordingly, was held primarily for teachers of natural science. They were shown that a modern textile plant offers countless examples of scientific principles constantly in action. The first workshop meeting was held at "Crown College" under joint sponsorship of the New England School Science Council and Textile Information Service.

The range of subject matter has gradually been widened to cater to interests of other teacher groups, such as instructors of social and commercial sciences, home economics, art, math-

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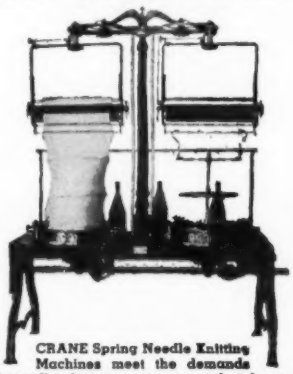

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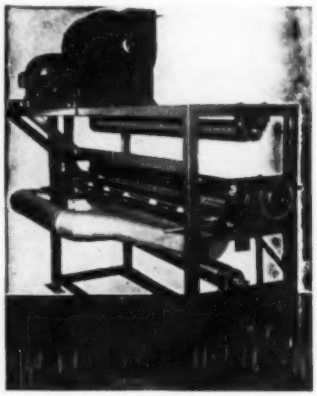

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ematics, languages, and guidance counselors.

WORKSHOPS. "Education-Textile Workshops" held by Cannon Mills and Fieldcrest Mills contributed to the broadening of this type of program. Some 60 teachers, representing all schools in Cabarrus County, N. C., visited Cannon Mills to observe household textiles being made. For this tour, written explanations were prepared with the aid of a committee of teachers that made a pilot tour. The explanations pointed out many examples of physical, chemical, and social science principles used in a modern manufacturing plant.

W. J. Bullock, superintendent of Kannapolis public schools, described the Cannon Mills tour as a practical and pleasant form of in-service training for the teacher. He was especially impressed by the numerous examples of industrial applications of textbook principles.

Home-economics instructors were interested in how the homemaker could judge quality in such goods as towels and sheets, the difference between percale and muslin, why combed-yarn materials are of higher quality than carded-yarn materials, etc.

Teachers of commercial subjects were impressed by the coordination of work between departments and the lack of confusion despite the large number of people working in the same general department. Mathematics teachers wanted to know such things as what fundamentals of arithmetic are used in placing the correct number of strands on the warp beam, the mathematical operations needed in the preparation of dyes, how percentage is used to determine the number of threads per inch needed to strengthen material, etc.

LEAKSVILLE TOUR. Approximately 125 Leaksville township school teachers, with guides and written detailed explanations to help them, visited the Fieldcrest blanket mill at Draper, N. C., and the company's rug mill at Leaksville, N. C.

After the tour, the teachers discussed ways of translating what they had seen into material for classroom use. They were united in the opinion that the mills offered a wealth of material in studies such as civics, economics, sociology, government and history, art, and home economics.

"The schools are unable to do the whole job of educating," said J. H. Hough, superintendent of Leaksville township schools. "This project showed us that industry is willing to meet us more than halfway. We need to catch some of the spirit of industry in action if we really are to under-

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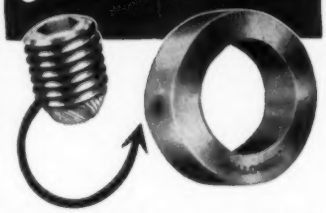

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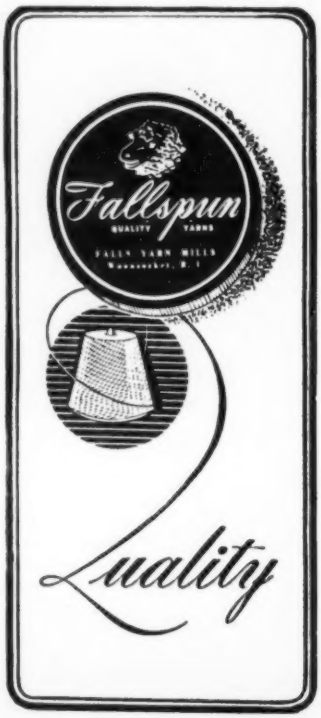

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SEALS—A special feature of the MRC ball bearing used in the WOOD'S LIFE-LUBE Pillow Block is the synthetic rubber seal bonded to a steel core. This is a highly efficient seal excluding foreign matter and retaining the lubricant permanently.

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PERMANENT LUBRICATION — WOOD'S LIFE-LUBE Pillow Blocks, equipped with MRC Ball Bearings are permanently lubricated with an approved high quality lubricant. This insures a saving in time and lubricant eliminating any relubrication maintenance cost. Also longer bearing life is realized because many bearings are ruined by dirt introduced at the time of relubrication.

WRITE FOR BULLETIN 194

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stand the full significance of American democracy; and this is an ideal way, perhaps the best way, of catching that spirit."

The teachers agreed that the visit was fine background experience that enabled them to learn something of the manufacturing processes that are the economic lifeblood of their community. It gave them an awareness, they said, of the potentialities of home industry for their students in an age dominated by the technological adaptations of scientific principles.

PREACHERS, TOO. As a part of Fieldcrest's Community Week program, the teacher visit to the mills was followed the next day by a tour for the preachers of the community. The human side of an industry was stressed.

A new note was sounded at a "Science in Action" workshop held at the Pequot Mills, Salem, Mass., when company officials described the part played by investment in providing workers with tools and jobs. Effects of competition and manufacturing costs on sales were discussed. The many responsibilities of management in dealing with such problems as machinery depreciation and obsolescense and achieving greater efficiency and better quality for the benefit of consumers were stressed. Naumkeag management representatives gave the educators new insight into industrial operations under the profit-and-loss system of free enterprise.

The most recent school-and-industry workshop of the series was conducted in December at the Biddeford, Me., plant of Pepperell Mfg. Co. Here again, besides observing "science in action" in the technical operations, the teachers found opportunity for a thorough exchange of questions and answers along these lines:

What is the financial structure of the firm? What is its contribution to the community in terms of wages, direct and indirect? What are the personnel problems? How is the industry related to outside factors such as supply of raw materials, transportation, and markets? What are the costs and how are they divided in making a textile product?

An effort was made to give the educators a clearer realization of the general economic setting of the technical processes they had observed. They welcomed this kind of knowledge; in fact, the workshops demonstrate that educators are as much interested in information of this kind as they are in studying the technical processes. Future school-and-industry workshops will therefore continue to emphasize aspects of the social and economic background of industry.

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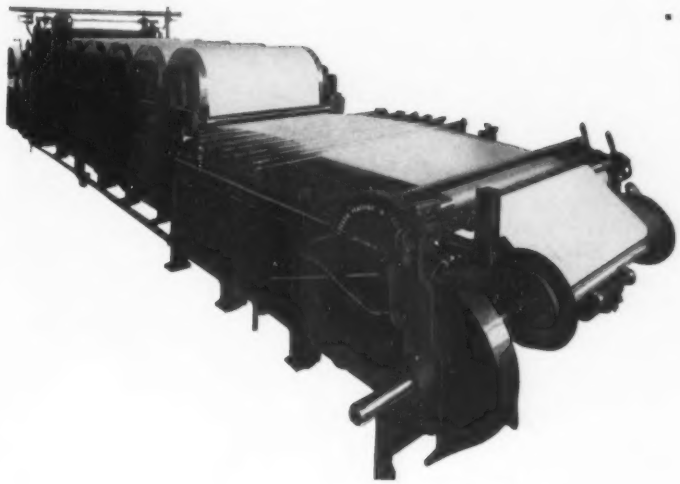

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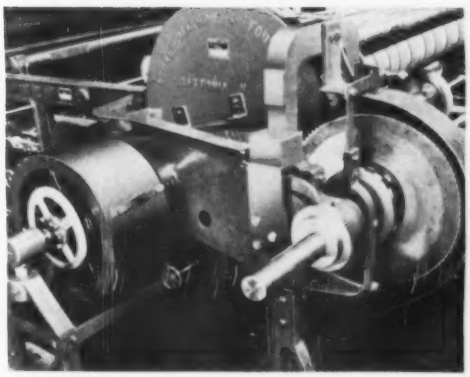

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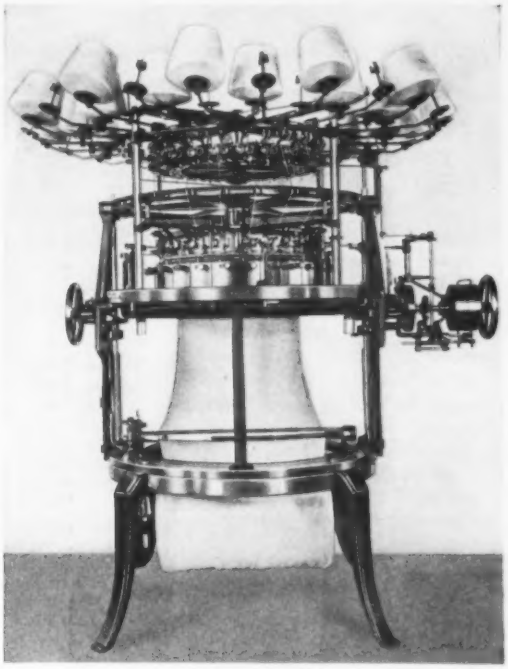

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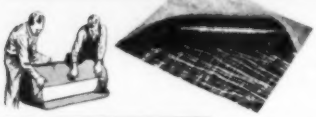

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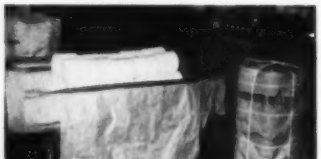

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Training System Helps Morale of Foremen

If there was ever a time when the mill foreman could be called the industry's forgotten man, that time is gone forever. Enough has been written to keep all foremen properly advised for years to come. Whether mill management selects a ready-to-use series of printed material or custom builds its own course of study from the wealth of available ideas and suggestions, untrained foremen should soon become a thing of the past.

No matter which system of training is chosen, it will cost money and time. Actual amounts and proportions will vary widely, but creating a better group of foremen is certain to have a price-tag attached. In these times of rising costs, management may well question whether a system is worth the expense; just as every other item of expense must be questioned.

Let's be frank about this question of training. If you're going to demand concrete results in the form of so many facts learned, so many ideas applied in the mill, and so much improvement in production—then you may be disappointed. You will get a fair return on your investment, and in some instances you may see a foreman show real signs of progress. However, over-all returns are more likely to be satisfactory than spectacular.

Why then, after admitting this, can we say it will still prove worth while? Because, we take into consideration a point you may have overlooked in your search for definite results. Here is the remarkable fact: Even if a foreman learned absolutely nothing (which fortunately isn't likely), he still would have the knowledge that you had invested in his future. He may go on demonstrating his right to leadership by his native ability and intelligence, but you have boosted his morale so that he makes better use of these assets. That alone would pay off. And when he begins to nibble around at the new ideas he is learning and starts to put them into practice, you can quit worrying about whether you have wisely invested your time and money.

As for workers in the mill, they have new respect for their foreman. No longer is he a lucky man who got his position by his wits. Rather has he turned into a trained leader who deserves better pay, greater prestige, and improved chance for promotion.

No training course can take the place of an "education" in the eyes of the workers, but training comes close to it. If friction in your mill has been caused by too little actual difference between leaders and workers, widening the gap by specific training will solve at least a large part of their problem.

Can you afford to train your foreman? Yes, even if you insist on judging results only on a dollar-and-cents basis. However, if you take a more liberal viewpoint and consider the value of improved attitudes all along the line, then you will agree that the foremen in your mill deserve some of the special attention which these men in general are now receiving. *G. M. Dodson, Harrisburg, Pa.*

American-System Drawing Not Used in Great Britain

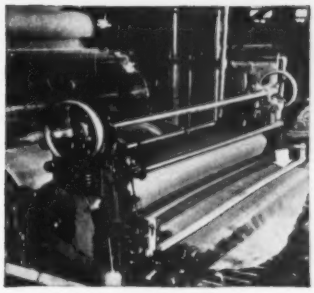
The American system of drawing has made very little headway here in Great Britain. The system affords a comparatively cheap method of converting tops into worsted yarn at a saving in labor, and the finished yarn is comparable to that produced on orthodox drawing and spinning systems.

There are a number of reasons why this system has not been adopted in Great Britain with as much enthusiasm as in America. It may be said that the average British worsted spinner is too conservative. He would prefer to see the other fellow make the mistakes in developing and then come in on anything that proves to be good.

It is true that there is some conservatism, but there are other powerful influences. The economic aspect, or simply the British shortage of dollars with the careful watch by authorities of dollar expenditures, may have been responsible for discouraging some manufacturers who would have been prepared to put in orders for at least trial sets.

The worsted trade has been extremely busy. Long delivery dates for yarns are still the rule, and installation of new machinery interferes with production schedules. There is not the same burning urge for constant change here in Britain. This is not a good thing in some ways, and many people think that a return to keener competition would provide this urge. There are some indications now that consumer resistance to present prices, if it continues, will make spinners more anxious to get business; and the spinner who can produce cheaper will most certainly be in the most advantageous position.

The structure of the wool textile industry is not quite the same in Britain as in America. Over here, the vast majority of spinners start with the tops as their raw material, rather than with the greasy wool. Topmakers cater to the spinner. They



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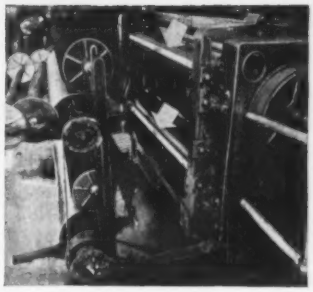

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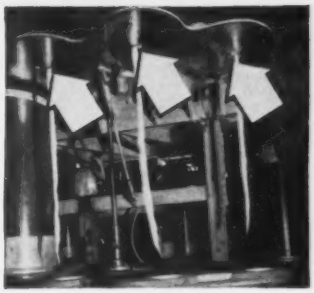
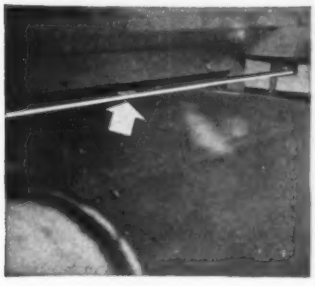


pin drafters...



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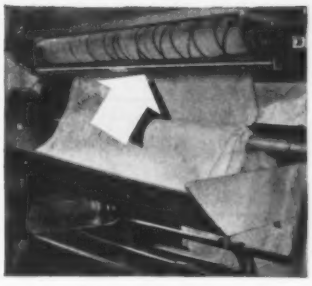

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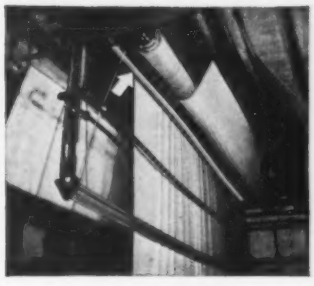


tenter frames...

Ionotrons stop static troubles

These are some of the kinds of textile machines on which Ionotrons have already eliminated static problems. In numerous mills where Ionotrons have been installed, they have reduced work stoppages and spoilage, eliminated the need for high plant humidity, boosted production, or improved quality.

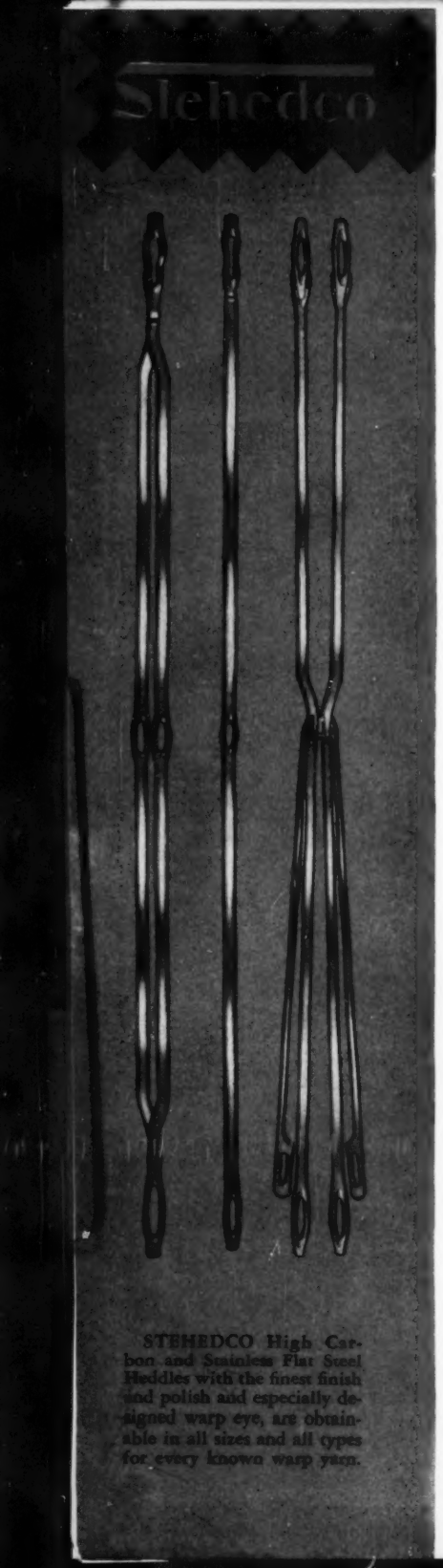
Ionotrons—a unique application of atomic energy—contain a self-activating source of continuous alpha radiation. The alpha rays ionize the air in the static trouble zone. The ionized air conducts the static harmlessly to the ground. The static-removing effect of Ionotrons is continuous and permanent. They can be produced in many shapes to fit various types of textile equipment.

The first cost of Ionotrons is the *only cost*. There are no moving parts, no power requirement, and no operating cost! The only maintenance required is an occasional wipe with a soft cloth.

Whatever your static problem may be, it's easy to find out whether Ionotrons can solve it. Along with an illustrated 8-page booklet, we'll be glad to send you a simple questionnaire to aid in analyzing your problem.

If your application is for wool and worsted machines, write Davis & Furber Machine Co., North Andover, Mass. Concerning any other textile application, write Dept. 916, U. S. Radium Corporation, 535 Pearl Street, New York 7, N. Y.

USRC
IONOTRON
Static
ELIMINATOR



STEHEDCO High Carbon and Stainless Flat Steel Heddles with the finest finish and polish and especially designed warp eye, are obtainable in all sizes and all types for every known warp yarn.

have their wool combed on commission and made into tops which are sold to the spinner. We do not have a great many vertical concerns in Britain as in the U. S. A. There is not quite the same interest in taking the combed sliver, giving it three line drafting operations, and then processing it through the American drawing. The limits of fiber length which the American system imposes may also have been a factor against its greater use. The feeling exists that Continental and Anglo-Continental sets take care of nearly all the material which falls into the class suitable for the American-system drawing.

Two new developments in Britain are likely to have a very far reaching influence on the trade. They are: (1) the P.S.C. (Prince-Smith centrifugal) system of spinning which is also applicable to roving and twisting; (2) Ambler Superdrafting.

Although little has appeared since the initial announcement of their development, both these systems are being developed and perfected. The trade here has confidence that both of these developments are well worth waiting for and will be of great value when available.

The savings which can be made on roving, spinning, and twisting are far greater than those which can be made at the drawing. Labor costs in these departments are much higher than in the drawing processes so the advantage will come at the point where the costs are the highest. Advantages may be gained by cutting out processes in Bradford-type drawing, but it has not been done indiscriminately or to any excess.

Rayon-Fabric Strength (Continued from page 147)

is not always realized is that the distribution of the binders also has a real influence. Take, for example, a weave of two-end taffeta by single ends and four-end taffeta by double ends. An equal number of crimps or binders is thus introduced on all ends, yet those working in pairs will get slack and allow the others to carry the strain.

In short, any condition tending to work some ends loose or tight eventually affects the fabric tensile strength because it disturbs that unity of effort from which maximum strength is derived.

VARIED YARNS. Fabric constructed with materials differing in their physical properties generally will be disappointing in tensile strength. This result is largely repetition of what has been mentioned before. The yarn having the lowest extensibility breaks first under the load, thus failing to add its effort to the ends possessing a higher stretch potential. In this respect cotton is not in sympathy with spun rayon, and continuous-filament viscose is at variance with acetate rayon as well as with spun yarns, whether made of cotton or rayon.

DYEING AND FINISHING. Unwise use of chemicals can be quite damaging to rayon fabric. Overdrying, causing brittleness, is also one of the ways to harm a cloth. In addition to the chemical aspects, the plain physical damages to which any fabric is highly susceptible in the wet state should not be overlooked.

We are unable to give a minimum figure to cover over-all damages to be expected even when cloth is handled under fair commercial conditions. We feel that a figure previously given, namely from 10 to 15% less than the original yarn strength, is conservative enough to cover manufacturing as well as dyeing and finishing expected-strength losses.

CRIMP. The thought has been expressed by several sources that, once affected by mechanically formed crimps as developed during weaving, yarns are weaker than in the straight state. In theory, this statement sounds correct. It is well-known that the loop strength of most of the textile fibers is appreciably less than that of their straight strength; and, in some way, the configuration of a crimp resembles that of a mild loop. Still, in our search for evidence, we have been unable to come out with a simple answer.

There seems to be no trend reflected by test samples made with 300-den. continuous-filament yarns. More or fewer crimps as well as more or fewer picks brought no change in strength. Samples recently made with 150-den. yarn give a faint indication that with the finer-yarn lower strength follows an increase in picks and crimps. Both picks and crimp seem to play a part in the picture. Which is the more damaging cannot well be deduced. The all-over weakening is limited; and its significance is probably more academic than real, at least in the heavier counts.

In connection with spun-rayon yarns, the effect of crimp cannot readily be divorced from the influence of the "packing factor," as discussed earlier.

and Southern

Stehedco and Southern!

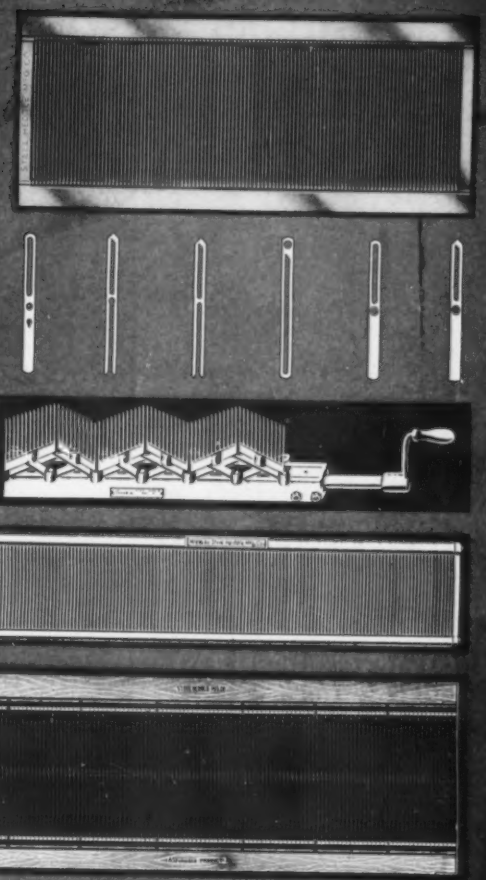
BRANDS THAT MEAN PROTECTION FROM WARPER BEAM TO CLOTH ROLL

100 times out of 100, during the weaving process, warp yarn touches metal while travelling from Warper Beam to Cloth Roll. Susceptible to chafing, jagging, and marking, yarn requires equipment of the most superior design, raw material, finish and polish to eliminate the costly breakage that can only result in the risk of 'Seconds' or 'Rejects'.

Top quality runs . . . Firsts can only be assured by using top quality loom harness equipment. Preferred by nine out of ten mills, STEHEDCO and SOUTHERN with their years of research and experience have made it possible to TRAVEL YOUR YARN FROM WARPER BEAM TO CLOTH ROLL WITH THE FULLEST POSSIBLE PROTECTION ATTAINABLE TODAY.

SERVICE . . . from five large strategically located plants, engineering staffs and mill trained field representatives conversant with mill problems and understanding the importance of equipment and product performance are ready to serve you . . . just phone, write, or wire.

THEY WEAVE THE WORLD'S NEEDS



Ste Hed Co
Flat Steel Heddles
Loom Harness Frames
Loom Reeds
(Pitch Band and All Metal,
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Loom Harness Accessories
Southern Shuttles
(Tempered Dogwood,
Fibre and Persimmon Covered)
Drop Wires
Warp Preparation Equipment
Electrode Rods
(Fibre and Plastic Insulation)
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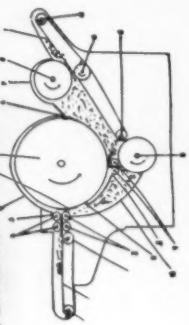
K & D SINGLE CYLINDER WASTE MACHINE DOES WORK OF 2 CYLINDERS

One cylinder does work of TWO! Double opening and cleaning on 1 cylinder. Eliminates extra cylinder, lame, dust rooms. Measures only 11' 6" when using 5' Apron. Weighs only some 2,500 lbs. Uses only 7½ H.P. motor. Cylinder, feed rollers, side sheet, gearing, all standard equipment. Equally successful on rayon, cotton. No damage to fiber.



HOW IT OPERATES

Employs set of double feed rolls (2) for first feed into cylinder; a cut-off (11) 12 inches from rolls drops stock on to a screen (8) carrying it to set of single feed rolls (9) and into cylinder again. This step is equivalent to second cylinder on similar machines. Another cut-off (6) delivers stock to second screen (4) and on to delivery apron carrying to receptacle. Complete process gives double opening and cleaning on one cylinder. Two machines may be worked in tandem, giving same results on 4 sections.

PAT. PENDING

On 30 Days Trial

KIRKMAN and DIXON Machine Shop and Foundry GREENWOOD, S. C.

News of the month

British Wool Research. The weakening of wool fibers during a prolonged period of stress is caused by the slow unfolding of the molecules in the crystalline phase of the fiber, plus a re-folding of the molecules in the amorphous state. Such is the conclusion gathered from wool-research work being conducted at the Department of Textile Industries, Leeds University, Leeds, England, headed by Prof. J. B. Speakman. Although the fiber returns to its original length when released in water, there is considerable weakening from molecular disorder. Work is being done on the recrystallization and re-strengthening of the wool fiber by heat treatments under precisely controlled temperature and pH conditions.

American Velvet Profit-Sharing. The usual 20% of the company's 1950 net profits before taxes went to all workers in cash at the American Velvet Co. plant at Stonington, Conn., in December. Another 10% was deposited into the retirement trust fund apportioned to the credit of each individual. Profit shares in 1950 amounted to 33.528% of annual wages. The additional amount for every worker was over and above prevailing union wage levels and numerous fringe benefits. Company president Clarence A. Wimpfheimer [TW, Dec., '50, p. 124] personally distributed the year-end checks to 368 employees.

Machinery Manufacturers' Brief. The industry-advisory committee of the U. S. textile-machinery manufacturing group has filed a brief with the National Production Authority in Washington stressing the essentiality of the textile industry and its machinery manufacturers to the mobilization effort and the civilian economy. The brief declared that textile-machinery manufacturers' facilities would be at the disposal of the government in any capacity whatsoever. But in an effort

TEXTILE CALENDAR

Cotton Research Clinic, National Cotton Council, Pinehurst, N. C., Feb. 7 to 9, 1951.

CATCC, Quebec Sect., McGill Univ., Montreal, Que., Feb. 17, 1951.

AATCC, New York Sect., Hotel New Yorker, New York, Feb. 23, 1951.

AATCC, Southeastern Sect., Purefoy Hotel, Talladega, Ala., Feb. 24, 1951.

AATT, Conference on New Fabrics for the Armed Forces, Hotel Commodore, New York, Feb. 28, 1951.

Conference on Industrial Personnel, Columbia University, New York, March 19 to 23, 1951.

ACMI, annual meeting, Greenbrier Hotel, White Sulphur Springs, W. Va., March 29 to 31, 1951.

AATCC, New York Sect., Swiss Chalet, Rochelle Park, N. J., March 30, 1951.

Carpet Fashion Opening, New York, April 2 to 12, 1951.

ASME, spring meeting, Atlanta Biltmore Hotel, Atlanta, Ga., April 3 and 4, 1951.

American Society of Lubrication Engineers, national convention, Bellevue-Stratford, Philadelphia, Pa., April 16 to 18, 1951.

National Packaging Exposition, Atlantic City, N. J., April 17 to 20, 1951.

CATCC, Quebec Sect., Mount Royal Hotel, Montreal, Que., April 21, 1951.

International Textile Exhibition, Parc des Expositions, Lille (Nord), France, April 28 to May 20, 1951.

National Assn. of Hosiery Mfrs., annual meeting, Claridge Hotel, Atlantic City, N. J., April 30, 1951.

Hosiery Industry Conference, Claridge Hotel, Atlantic City, N. J., April 30 and May 1, 1951.

Knitting Arts Exhibition, Atlantic City Auditorium, Atlantic City, N. J., April 30 to May 4, 1951.

American Material Handling Society, materials-handling conference, International Amphitheatre, Chicago, Ill., April 30 to May 4, 1951.

National Materials Handling Exposition, International Amphitheatre, Chicago, Ill., April 30 to May 4, 1951.

British Industries Fair, Earls Court Hall, London, England, April 30 to May 11, 1951.

Textile Institute, annual conference, Brighton, England, May 1951.

AATCC, New York Sect., Swiss Chalet, Rochelle Park, N. J., May 4, 1951.

Greater New York Industrial Show, 71st Regiment Armory, New York, May 7 to 11, 1951.

AATCC, Hudson-Mohawk Sect., Albany, N. Y., May 11, 1951.

Cotton Mfrs. Assn. of Georgia, annual convention, Sheraton Plaza and Princess Issena Hotels, Daytona Beach, Fla., May 16 to 18, 1951.

Prague International Fair, Prague, Czechoslovakia, May 20 to June 3, 1951.

American Society for Quality Control, annual convention, Hotel Cleveland, Cleveland, Ohio, May 23 and 24, 1951.

Canadian International Trade Fair, Toronto, Ontario, May 28 to June 8, 1951.

ASTM, annual meeting, Atlantic City, N. J., June 18 to 22, 1951.

STA, annual convention, Mayview Manor, Blowing Rock, N. C., June 21 to 23, 1951.

American Chemical Society, diamond jubilee, New York, Sept. 3 to 7, 1951.

AATCC, annual convention, Statler Hotel, New York, Oct. 17 to 19, 1951.

Packaging Institute, annual forum, Hotel Commodore, New York, Oct. 22 to 24, 1951.

1952

Textile Wet Processing Equipment and Supplies Exposition, 71st Regiment Armory, New York, April 1952.

1954

American Textile Machinery Exhibition, sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., April 26 to May 1, 1954.

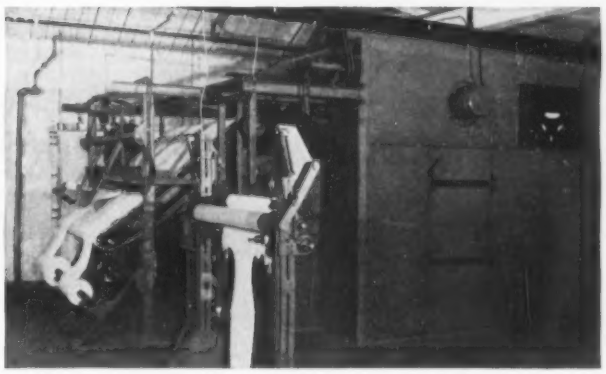
PROCTOR DEFENSE BULLETIN NO. 1

MEET GOVERNMENT CONTRACT SPECIFICATIONS WITH REDMANIZED* FABRICS

in COTTON TUBULAR KNIT

WOOL TUBULAR KNIT

WOOL and COTTON COMBINATIONS



The system that has been so successfully used to control the shrinkage problem and enhance the hand of cotton tubular knit goods IS NOW BEING APPLIED WITH SPECTACULAR RESULTS TO WOOL and WOOL AND COTTON COMBINATION FABRICS FOR GOVERNMENT CONTRACTS.

For control of relaxation shrinkage in wool and cotton tubular knit underwear, the system meets the rigid requirements contained in Military Specification #MIL-U-10211.

In the processing of tubular knit wool with a jersey stitch, it is meeting Military Specification #MIL-S-3257.

These government specifications are rigid and incorporate tumble drying!

In its application to cotton tubular knit goods, proven results are not limited to any one fabric but include 1 x 1 combinations, interlocks, Swiss-ribs, balbriggans, single and double napped goods, and specialty fabrics.

With the possibility of severe curtailment in civilian production, wise mills are investigating the possibility of producing fabrics for government contracts. As you plan for this type of production, you would do well to investigate this modern system that will make it possible for you to meet rigid government requirements.

This system is available to manufacturers by license. Proctor engineers can supply complete information on the equipment necessary and will gladly work with any licensee in the installation of machinery.

*Reg. U.S. Pat. Off.

NOTICE—This system is completely covered by both process and machinery patents pending, in which the Redman Trust has the United States rights.

PROCTOR ENGINEERS

READY TO ASSIST IN DESIGN OF EQUIPMENT NEEDED FOR DEFENSE CONTRACTS

As more and more textile manufacturers begin to receive defense contracts, it is becoming apparent that some are going to require special or additional equipment. Proctor engineers are keeping in close touch with government requirements and specifications and are ready to assist any manufacturer in designing equipment to meet his special requirements.

PRIORITY INFORMATION

As priorities become the order of the day, Proctor & Schwartz are maintaining up-to-the-minute information on the situation and are ready not only to share this information with textile manufacturers—but will help the manufacturer in need of equipment for defense work to secure the necessary priority from the government to speed delivery.

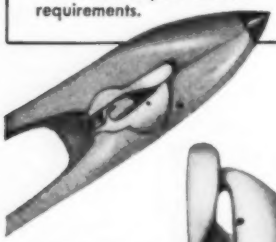
CHECK YOUR SUPPLIES OF SPARE PARTS

With the critical situation that is developing in most materials—coupled with the fact that you are going to want uninterrupted production—it becomes increasingly important for you to maintain stocks of vital parts on your shelves. Regardless of restrictions Proctor shops will make every effort to supply standard parts in minimum time. However, no matter how prompt the service—it is not as simple as going to your own shelves for the part. Write for a list of suggested spare parts, being sure to give the order number from the nameplate of your Proctor machinery.

PROCTOR & SCHWARTZ · INC · 710 TABOR ROAD · PHILADELPHIA 20 · PA ·

Keep ahead of your shuttle needs

Give ample protection to your weaving standards, which the Shuttle People help you to maintain, by purchasing your shuttles well ahead of time. Be on the safe side, and certain of those Watson Williams shuttle features on which you particularly depend. Allow at least an extra month for us to meet your exact requirements.



Woolen Shuttle with a W15L Rear Tension Eye, interchangeable with other famous Watson Williams regular and tension eyes.

W15L Rear Tension Eye maintains an even tension at all times on filling. Prevents many troublesome weaving imperfections.

Rayon Shuttle for S5 and S6 Looms with S7X Reverse Wind Eye.

S7X Reverse Wind Center Tension Eye eliminates many rayon filling problems, by holding the thread in perfect alignment and constantly down in place.

WATSON-WILLIAMS Mfg. Co.

MILLBURY, MASSACHUSETTS

SOUTHERN REPRESENTATIVES: Watson and Desmond, Box 1954, Charlotte, N. C.; Arthur J. Bahan, 810 Woodside Bldg., Greensville, S. C.; Greensboro, N. C. office, Jefferson Building

NORTHERN REPRESENTATIVE: Guy C. Burbank, 32 Beaconsfield Rd., Worcester 2, Mass.

NEWS OF THE MONTH (Continued)

to forestall the errors of World War II, the group asked for consideration by the government of the small critical-materials needs of the textile industry maintenance and supply program during a time of crisis; and suggests that in the future the entire textile industry and textile-machinery manufacturers be consulted and regulated as one essential unit.

Seek Higher Wage Minimum. A minimum wage rate in textile mills that are producing cotton or rayon fabrics for the government under the Walsh-Healey Act, originally argued for at 94¢ per hour, is now seen as too low by the Textile Workers Union of America, CIO. The union now tends to the view recently expressed by Seabury Stanton, head of Hathaway Mfg. Co., New Bedford, Mass., that a minimum wage of $1.065 an hour should be set on government contracts. Mr. Hathaway, Senator Green of Rhode Island, and TWUA hold that Northern mills are unable to bid successfully on contracts currently being awarded by the government because of lower wage costs in Southern mills. The "remedy" appears to be to standardize at least the wage factor in overall manufacturing costs. The "obsolete" minimum wage rate for government work is 87¢ an hour, with 80¢ for learners.

Nylon Throwsters Worried. A growing shortage of Elvanol, which is used in the sizing of nylon yarns heavier than 15-den., is creating increased problems for throwsters. Elvanol contains polyvinyl alcohol, a chemical needed for military uses in large amounts. The National Association of Hosiery Manufacturers, commenting on the shortage, says that every effort to develop working substitutes for Elvanol has so far been unsuccessful. The number of hosiery manufacturers now doing their own throwing is only about 15, while in pre-nylon days about 60 manufacturers had throwing departments. The shortage therefore will soon cause a bottleneck if additional facilities for producing the chemical are not put into immediate operation.

Obtains Carpet-Rayon Source. Bigelow-Sanford Carpet Co., Inc., Thompsonville, Conn., recently contracted to acquire the interest of Bernard R. Armour, deceased rayon executive, in the Hartford Rayon Corp., Hartford, Conn. About 39% of the outstanding common stock, 39% of the outstanding preferred stock, and $130,000 outstanding notes are involved. Hartford filament production is said to be about 5,000,000 lb. per year, mostly in heavier deniers. Bigelow-Sanford will supplement the filament production to the trade with rayon staple suitable for its own carpets. According to James D. Wise, president of the carpet-manufacturing firm, "the future of the carpet industry is tied up with the development and use of man-made fibers which have been proved equal to or better than wool, and are approximately one-third of the cost of wool."

Military Needs Estimated. Tentative estimates of Quartermaster Corps requirements for cotton, wool, and synthetic-fiber textiles under the mobilization program include the following: approximately 104,000,000 yd. of cotton uniform cloth, 31,000,000 yd. of wool textiles, 14,000,000 yd. of synthetic fabrics, 28,000,000 yd. of light fabrics for tentage, 24,000,000 yd. of duck, and 134,000,000 yd. of webbing. These totals do not include Navy requirements. The bulk of deliveries are expected by July, with completion by October except for wool yardage, which delivery dates have been extended to June, 1952. The 81st Congress authorized the purchase of 100,000,000 lb. of raw wool or its equivalent in wool fabrics. About 30,000,000 lb. of raw wool, clean basis, are being sought, and another 31,000,000 yd. in the form of eight types of fabric. The balance represents allocations for the Navy.

13,000,000,000-Sq.Yd. Peak. Because of the amount of old textile machinery that has been replaced with new since World War II, causing a better balance of operations and the elimination of bottlenecks, the textile industry, with 100,000 more workers, could in the future produce in the neighborhood of 13,000,000,000 sq. yd. of goods in a year. This figure compares with the 12,000,000,000 sq. yd. produced in 1942. The above estimate was made by Ralph E. Loper, textile engineer of Fall River, Mass., and Greenville, S. C. A figure of 472,000 workers, the average number employed during the first five months of 1950, was used as a base for the employee-need estimate. In 1942 there were about 539,000 primary textile employees. The report was made by Mr. Loper to help planners in their estimates of future manpower needs in

FEBRUARY • 1951

CARD CLOTHING NEWS and views

WRITTEN MONTHLY BY E. A. SNAPE, JR., PRESIDENT, **Benjamin Booth Company** PHILA., PA.

ASK YOURSELF THESE QUESTIONS:

1. Am I using the Best Card Clothing?

2. Am I doing everything possible to cut Carding costs?

3. Am I interested in getting all the production I should from Carding?

4. Am I using the type of Card Clothing that will best enable me to change quickly to war work?

IF YOU USE STRIP-O-MATIC* ... THE ANSWER IS YES:

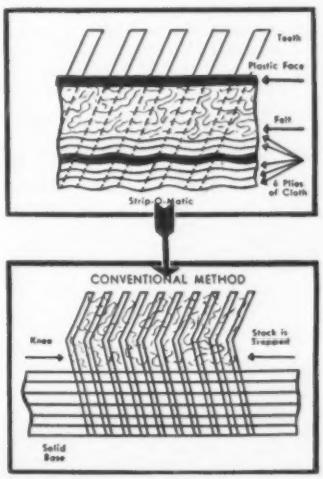
Check These 10 Features Offered You In

STRIP-O-MATIC*

1. Increased production
2. Minimum of stripping
3. Better carding
4. Less "down time"
5. Less grinding
6. Longer life
7. No costly methods to put on
8. Saving in stripping waste
9. Cost—no more than equivalent conventional card clothing, less than metallic
10. No change in fancies
11. Nothing new for help to learn

* Reg. U. S. Pat. Off.

Here is why STRIP-O-MATIC, the card clothing that reduces stripping to a minimum, is the answer to these—and many other questions: A wider range of counts can be run on STRIP-O-MATIC. If you are set up for coarse carpet work, you can probably run most of the finer counts that the Quartermaster will need.



STRIP-O-MATIC is best because it offers advantages enabling you to save in many ways, and at the same time *card better!* Its revolutionary features see to that; the streamlined wire, the foundation (clear run), and the elasti-plastic face which is oil and waterproof.

STRIP-O-MATIC cuts carding costs by reducing "down time", reducing stripping, and reducing the amount of time labor would ordinarily spend at this task.

The features enable you to get all the production possible, for there is little waste.

Today, over 200 textile plants have installed STRIP-O-MATIC. They praise it for being different, better, *more profitable!*

You are cordially invited to write today for full details on STRIP-O-MATIC*. Learn how you, too, can save many ways in carding.

Sincerely,

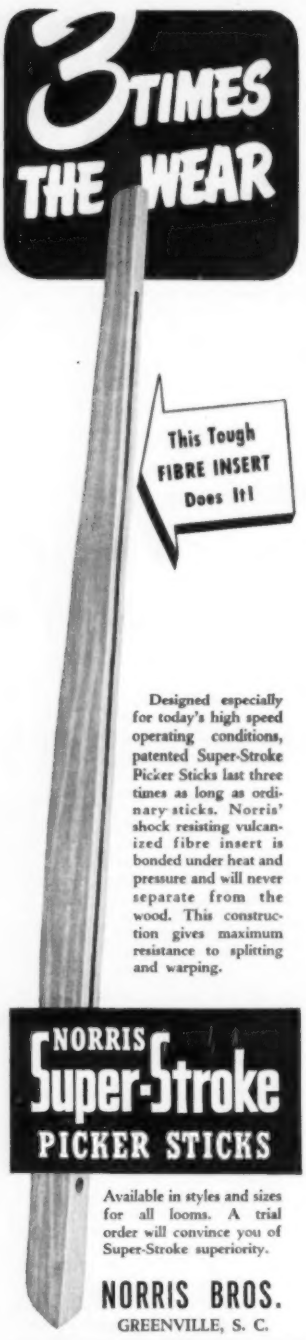
E. A. Snape Jr.

President.

Benjamin Booth Company

Allegheny Ave. & Janney Sts.
Philadelphia, Pa.

For more information, write direct or use Reader Service post card.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This Tough FIBRE INSERT Does It!
Designed especially for today's high speed operating conditions, patented Super-Stroke Picker Sticks last three times as long as ordinary sticks. Norris' shock resisting vulcanized fibre insert is bonded under heat and pressure and will never separate from the wood. This construction gives maximum resistance to splitting and warping.
NORRIS
Super-Stroke
PICKER STICKS
Available in styles and sizes for all looms. A trial order will convince you of Super-Stroke superiority.
NORRIS BROS.
GREENVILLE, S. C.

the broad field of primary textile manufacturing.

Catalyst Requirements Discussed. Catalysts used in the resin-impregnation of fabric to give wrinkle-resistance, shrinkage-control, and fixed glazed and embossed effects must have at least five important characteristics, Dr. R. F. Wickerson of the textile-research laboratory of Monsanto Chemical Co., Everett, Mass., recently told the Southeastern Section of the AATCC at Atlanta. A catalyst must be water-soluble so that it can be distributed uniformly through the resin bath. It must not promote appreciable polymerization of the resin precondensate in the application bath. It must exert its catalytic action rapidly during the heating stage. It should cause a minimum of fiber damage. It should leave the goods odorless. Several new catalysts developed are of the organic type.

Knitting Arts Exhibition. An additional 36 exhibiting spaces on the general stage of the Auditorium in Atlantic City, N. J., were provided at the turn of the year for late entries in the 40th Knitting Arts Exhibition that is sponsored by the National Association of Hosiery Manufacturers every two years. One-half of these final spaces have already been assigned. The exhibition of 1951, which thus promises to be the largest one in its long history, is being held from April 30 to May 4. There will be only one evening session, Tuesday, May 1; and the show will close 1 P. M. on Friday.

Old Slater Mill. The Old Slater Mill Association, Pawtucket, R. I., has launched a "treasure hunt" for old textile machinery to go into the Old Slater Mill on the nearby Blackstone River, built in 1793. The old wooden structure, birthplace of the textile industry in the United States, is being prepared to receive old-time equipment that will duplicate as closely as possible the production system in use in Samuel Slater's day. Whitin Machine Works has donated a collection of spindles over 100 years old. An old museum piece in England is another addition. Other gifts of both equipment and funds are expected. Albert E. Noelte of Priscilla Braid Co., Central Falls, R. I., is president of the historical group; and George West of Whitin Machine Works is serving as chairman of the "treasure-hunt" committee.

AATCC Convention. The largest gathering of dyeing and finishing technicians in the history of textile dyeing and finishing is expected to attend the 30th national convention of the American Association of Textile Chemists and Colorists from October 17 to 19, 1951, at the Hotel Statler, New York. An outstanding exhibit of fabrics and yarns as well as dyestuffs, textile chemicals, instruments, and light equipment is being prepared, with contracts for space running far ahead of previous years. Henry L. Young of Interchemical Corp., Textile Colors Div., chairman of the exhibits committee, reports that 54 firms have already reserved 80 of 125 booths, indicating the largest exhibit ever held by the association.

Campbell-Fairbanks, Inc., Boston, Mass., exposition managers, is directing the exhibit program. Membership of the committee which is arranging the technical program for the convention has been completed. William A. Holst, National Aniline Div., Allied Chemical & Dye Corp., is chairman. Those interested in presenting papers at the technical sessions of the convention should write him at 40 Rector St., New York.

Other committee members are Charles H. A. Schmitt, Sandoz Chemical Works, Inc.; E. A. Leonard, Alexander Smith & Sons Carpet Co.; Paul Choquette, General Dyestuff Corp.; Henry E. Millson, Calco Chemical Div., American Cyanamid Co.; Francis S. Richardson, Waldrich Co.; Weldon G. Helmus, Fair Lawn Finishing Co., Fair Lawn, N. J.; and P. J. Wood, Royce Chemical Co.

Substitute for Jute. Kenaf, generically known as *hibiscus cannabinus*, is a fast-growing plant cultivated for its coarse bast fibers that is now being groomed in the Western hemisphere to fill in for difficult-to-get jute. Tropical Fibre, Inc., Vero Beach, Fla., recently shipped the first two bales of kenaf ever grown commercially in the United States to Ludlow Mfg. & Sales Co., Ludlow, Mass., for spinning into yarn. The kenaf was grown on 240 acres of marshland in Florida's Indian River country. At the same time, since 1944 the agricultural departments of Cuba and the United States have been looking for a jute substitute, and are experimenting with kenaf commercially. About 580,000 acres of good land in Cuba are seen as needed for kenaf cultivation to satisfy both Cuban and U. S. needs. The jute-like fiber grows from eight to 12 ft. high, is harvested in 100 to 150 days, has stalks about one-half in. in diameter, and yields about 1,500 lb. of extracted fiber an acre.

Amazing Invention!

Automatic Thread Marker for Textile Industry

An ingenious device. Immediately popular all over the world.

In great demand by all weaving mills. A wide variety of uses in other textile branches.

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FOR BETTER WOVEN FABRICS

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the natural "Yarn Food"

in your size formula. It penetrates, holds the moisture longer, makes a smoother, more pliable thread for better interlacing. *No more Tear Drops.* Excellent for yarn-dyed warps.

OUR TECHNICIANS WILL ASSIST YOU TO WORK OUT A FORMULA TO GET THE MOST OUT OF WARP SIZING.

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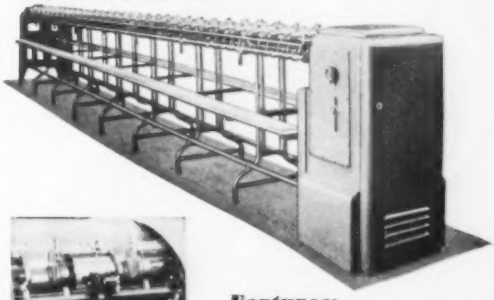
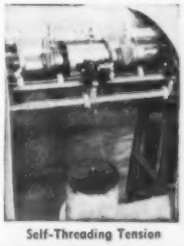
WITH SELF-THREADING TENSION — SELF-OPENING SPINDLELESS ATTACHMENT — FULL SPOOL STOP MOTION.

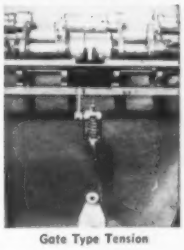
Deliberately designed for perfect spools at higher speeds and greatest possible automatic operation. This brand new winder-redraw requires a minimum of attention during operation and is easy to clean and maintain.





Self-Threading Tension

Full Spool Stop Motion



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Features:

1. **Washer type self-threading tension** fastened to traverse rail is easily adjustable and quickly cleaned. Eliminates all threading operations.
2. **Gate type tensions** available with self-threading Alsimag guides for nylon.
3. **Full spool stop motion** prevents overrun bobbins.
4. The drive and traverse mechanism is enclosed in one complete unit and is lubricated by a circulating oil bath.
5. Traverse adjustment is independent on each side of machine and can be adjusted from 3½" to 7" traverse without changing cam.
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8. Single or double drive self-opening spindleless brackets are available.
9. Easily changed for "S" or "Z" twist by use of reversing switch.
10. Tachometer available for easy speed readings.

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SIPP-EASTWOOD CORPORATION

Producers of Superior Equipment for Textile Processing.
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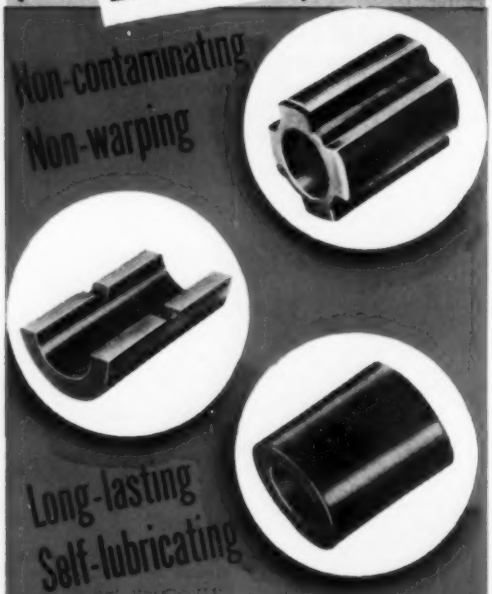
Here's the answer to your **BEARING** problems



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– recommended for dye vats, immersion rolls and general textile service

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see our CATALOG in SWEET'S FILE

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Manufacturers of CARBON MOTOR and GENERATOR BRUSHES, CARBON PILES and SELF-LUBRICATING CARBON SPECIALTIES

NEWS ABOUT *Suppliers*

Equipment Suppliers

Chapman Electric Neutralizer Co., Portland, Maine, has appointed William J. Moore, Greenville, S. C., its representative for the sale of company static-neutralizer equipment to the industry in South Carolina, North Carolina, Georgia, and Alabama.

General Electric Co., Schenectady, N. Y., recently appointed Joseph F. Eckel, former manager of GE River Works, at Lynn, Mass., to the position of manager of the large-motor and generator divisions at Schenectady. He succeeds J. M. Crawford, transferred to Pittsfield, Mass., as manager of the transformer and allied-product divisions. Harry A. Vaughn has succeeded Herbert L. Ross, new manager at Lynn, as manager of manufacturing at the Lynn meter and instrument divisions. A. Martin is the new apparatus-department manager at the Fort Wayne, Ind., works.

Link-Belt Co., Chicago, Ill., has opened a factory branch store in Pittsburgh, Pa. The company South African subsidiary has purchased a 12,000-sq.ft. manufacturing plant at Springs, Transvaal. Conveyor machinery and other products will be made there for use in South Africa.

Minneapolis-Honeywell Regulator Co., Brown Industrial Div., Philadelphia, Pa., is expanding its industrial production and operating facilities through the purchase of the local Thomas M. Royal plant and 60,000 additional square feet of land. Complete possession takes place this month, following modernization to meet company requirements.

Poinsett Lumber & Mfg. Co., Pickens, S. C., is building a 20,000-sq.ft. addition to its plant. In addition, a $2,000,000 new one-story steel-frame building at Anderson, S. C., will house complete assembly operations of Singer sewing machines into their cabinets. The Anderson plant will contain 225,000 sq. ft. of work area. Both buildings are being built by Daniel Construction Co.

Reliance Electric & Engineering Co., Cleveland, Ohio, has purchased a 60-acre plot in Euclid, Ohio, for the construction of a 130,000-sq.ft. one-story building to cost more than $1,500,000. Industrial-type electric motors and accessories will be manufactured there. C. Carlisle Tippit has been made general purchasing agent of the company. Walter H. Behnke succeeds him as manager of the order and planning department. The company has established a new branch sales office in Newark, N. J., with Elwood H. Koontz as branch manager and F. R. Obenchain as sales engineer. Reliance Electric & Engineering (Canada) Ltd., Welland, Ont., has been established as successor to Commonwealth Electric Corp. Ltd.

Joseph T. Ryerson & Son, Inc., Chicago, Ill., recently elected Charles L. Hardy, president, succeeding Everett D. Graff, new chairman of the ex-

STEEL HEDDLE MFG. CO. has opened its new Canadian plant at Granby, Quebec. The new, modern, specially equipped and staffed Granby structure is the fifth link in the company chain of plants spread throughout the United States and Canada. The Granby plant cost in excess of $100,000.

MILL MEN:

THINK OF IT... *Continuous FULL SPEED Production*

NEW ROLLS SEWED ON WITHOUT STOPPING

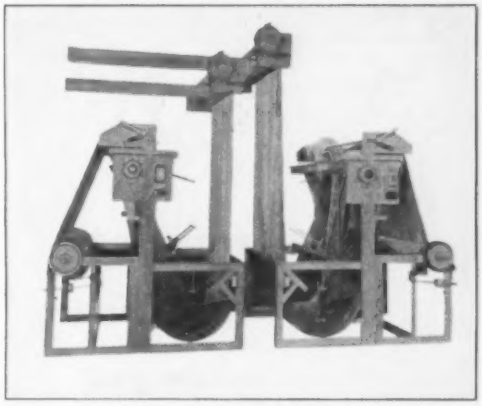
Mount Hope CONTINUOUS ROLL FEEDS

Maintain Full Speed Operation on All Roll Fed Machines

CUT COSTS

1. **Save Labor** — One man or woman can easily change and sew on new roll.
2. **Save Time** — Machine continues to run at full speed while roll is changed.
3. **Save Cloth** — Eliminates costly cloth damage due to machine stoppage.

MOUNT HOPE CONTINUOUS ROLL FEEDS are adaptable to practically any continuous feeding requirement. For further information write for Bulletin CRF or a Mount Hope Engineer will be glad to advise you.



Typical installation ahead of printing machine. Shown are two continuously full Scray units with adjustable sides and fronts, standard center bar let-off and automatic stop control. One carries white goods, the other, back greys — feeding print machine continuously. Accurately controlled tension of the goods is supplied at the delivery end of Scray by use of two Mount Hope Open Width Tension Devices. (See top of picture)

MOUNT HOPE MACHINERY CO., 15 FIFTH STREET, TAUNTON, MASS.

THE "HEART" OF THE NEW HEIM *Unibal* SWEEPSTICK

Instead of an oversized stud hole which elongates during operation, the new HEIM Sweepstick has a Spherical Bearing consisting of an SAE 52100 chrome steel ball bored to fit the stud, and oscillating in bronze bearing inserts.

Any misalignment is compensated for by this unusual spherical bearing. Shock is absorbed in both directions of the stroke, and a softer and smother pick action results. Production interruptions due to sweepstick failures are cut to a minimum. You can count on longer life and improved action with this durable HEIM Sweepstick.

Please write for stock list and prices.

THE HEIM CO. HEIM **FAIRFIELD, CONN.**

EXPECT

economy
and efficiency
when you
Desize with

EXSIZE-T

At last—a new, improved desizing agent that lives up to your highest expectations. Exsize-T is the *most efficient* and *most economical* of all desizers.

Safe! Exsize-T is not a harsh chemical—but a liquid enzyme concentrate . . . cannot tender any cloth. Recommended by leading textile mills. Write for free booklet today.

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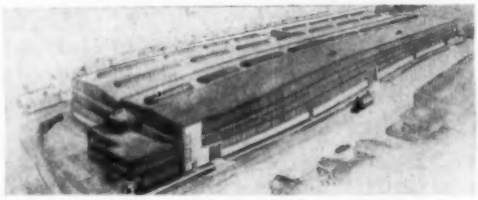
NEWS ABOUT SUPPLIERS (Continued)



JOSEPH T. RYERSON & SON, INC., Chicago, Ill., has moved into its new and larger steel-service plant and office building in Cincinnati, Ohio. Construction of the 165,000-sq.ft building was begun a year ago. Representing an investment of well over $1,000,000, the new plant replaces the former Cincinnati plant, occupied since 1923.

ecutive committee. Mr. Hardy was formerly assistant to the president.

Saco-Lowell Shops, Boston, Mass., recently elected Malcolm D. Schaffner to serve as a director of the firm. He has been with the firm over 17 years, six of them as treasurer, and more recently as vice president.

Sjostrom Machine Co., Lawrence, Mass., is establishing a manufacturing branch and sales office in Greenville, S. C., early this year. A one-story building is being built on the outskirts of Greenville, 50x100 ft. in dimensions, together with an office extension. Approximately 20 persons will be employed.

U. S. Rubber Co., New York, has appointed Wilbur E. Combs product manager for the L. H. Gilmer division. The former assistant manager of rubber V-belt sales is now responsible for sales of V-belts, shock pads, and other Gilmer products.

U. S. Steel Corp., New York, is building a new, wholly integrated steel plant near Morrisville, Pa., that will have the capacity to produce 1,800,000 ingot tons of steel a year. It is scheduled for completion by the end of next year.

Universal Winding Co., Providence, R. I., has appointed Frank P. Barrie to the position of sales-promotion manager formerly held by Karl H. Inderfurth, resigned. Edward C. Parish, Jr., has stepped into Mr. Barrie's former position of New England sales agent. John A. Freed is advertising manager.

Westinghouse Electric Corp., Pittsburgh, Pa., has appointed C. Spence Purnell its Eastern-district manager of the agency and construction divisions, recently formed. The new division is to handle sales through agent, industrial, and wholesale distributors. Vernon L. Ingersoll is now supervisor of the textile section in the new Eastern-district set-up, located in New York. He was for four years an application engineer with the general-industry division.

Whitin Machine Works, Whitinsville, Mass., recently elected Robert I. Dalton, Sr., Southern agent at Charlotte, N. C., to the position of vice president. He has been with Whitin as an agent since 1902.

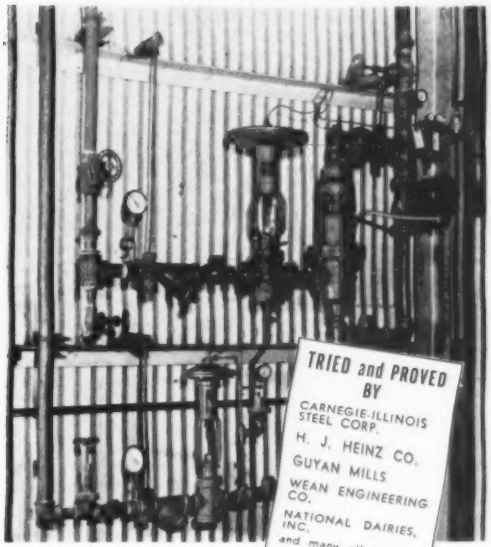
Worthington Pump & Machinery Corp., Harrison, N. J., has named Wilbur R. Leopold assistant vice president. He was formerly the manager of

MARKEM MACHINE CO., Keene, N. H., completed its new plant, consisting of two new buildings, in December. One building houses production facilities and offices for the manufacture of machines, printing elements, and supplies, while the other houses the ink division and research facilities. An "Open House" will be held the afternoon of February 5.

Pick INSTANTANEOUS WATER HEATERS PROVIDE

HOT WATER INSTANTLY

. . . AT THE TEMPERATURE REQUIRED
. . . IN THE VOLUME NEEDED



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A steam injection heater; PICK has the exclusive **Pressurizer Piston** that stabilizes injection pressure — eliminates pipe hammering and shaking. Fully automatic to provide and accurately maintain temperatures 40° to 180° F. Available in seven sizes with rated capacities of 10 to 200 gallons per minute. Any volume required can be obtained by using multiple installation. Compact design — saves space and installation cost.

★ **STEEL MILLS**
ANNEALING
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★ **TEXTILES**
BLEACHING
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★ **FOOD PROCESSING, DAIRIES, PACKING PLANTS**
WASHUP (TO MEET INSPECTION REQUIREMENTS)

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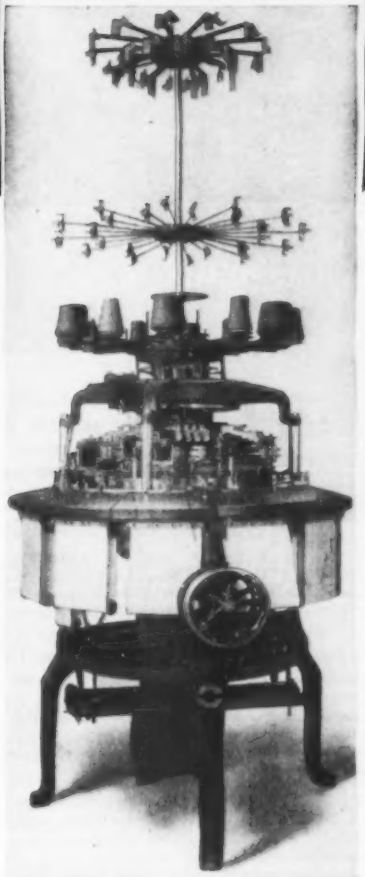
WESCO STOPMOTIONS
FOR
OUTERWEAR • UNDERWEAR • HOSIERY

STANDARD EQUIPMENT
JACQUARD KNITTING MACHINES



JACQUARD AND WESCO

Team work that pays off in greater profits, by increasing production (on any machine) through the elimination of unnecessary press-offs, knitting breakdowns, broken needles and wasted yarn. Always specify *Wesco Stop Motions* for trouble free production.

LOOK FOR WESCO
on all these knitting machines:

H. Brinton Co.
Charles Cooper Co.
Crane Manufacturing Co.
Edmos Products Corp.
Fidelity Mach. Co., Inc.
Jacquard Knitting Mach. Co.
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Leighton Machine Co.
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STANDARD THE WORLD OVER

STOP-MOTION DEVICES CORP.
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Another of a Series of Knitting Machine Builders. Others to follow.

 For more information, write direct or use Reader Service post card.

ATLAS
LAUNDER-OMETERS
and FADE-OMETERS

. . . in the new
Riegel
Laboratory

. . . used for quality control, development and testing of products and processes

In the modern, new laboratory recently constructed by the Riegel Textile Corp., Atlas Launder-Ometers and Fade-Ometers make constant quality control possible by providing accurate washing and color fastness data on samples of fabrics being run through production lines.

As part of the research program inaugurated by Riegel officials, these Atlas-Ometers help also to provide complete information on each new fabric while it is still in the developmental stage as well as to maintain the high standard of quality in daily production. In this manner, Riegel avoids costly trial and error methods still practiced in some textile plants today.

Technicians at this laboratory conduct washing tests of the A. A. T. C. C. in the Launder-Ometer to determine the fabric's resistance to shrinking, its color fastness, and resistance to washing and mechanical action. The Fade-Ometer is used to obtain factual data regarding the degree of fading registered on the sample by sunlight, temperature, and humidity. The Atlas cycle timer unit can be set to duplicate any test at any time.

New research model Launder-Ometers with capacities ranging from 20 pint jars to 6 half-gallon containers are now available as part of the complete line of standard Launder-Ometers.

ATLAS ELECTRIC DEVICES COMPANY
361 W. Superior St., Chicago 10, Ill.

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NEWS ABOUT SUPPLIERS (Continued)

the company Detroit, Mich., office. Clarence S. Wentworth succeeds him at Detroit. J. J. Thompson, former assistant manager of the Cincinnati office, is now manager of the sales personnel and training division at Harrison.

Chemical and Yarn Suppliers

American Viscose Corp., New York, recently observed its and American rayon-manufacturing's 40th birthday by giving each of nine original 40-year employees a share of company stock. Four of the nine are Englishmen who came to this country in 1910 to erect the first machines and to train Americans to operate and maintain them.

G. W. SEYMOUR has been appointed coordinator of development at Celanese Corp. of America, New York. He is now responsible for the integration of all development work in process in the various departments of plants of the corporation.

American Cyanamid Co., New York, has started construction on a 100,000-sq.ft. building in Chicago, Ill., so as better to take care of Midwestern customers through consolidated facilities. North American Cyanamid Ltd., Montreal, Que., and Toronto, Ont., is now distributing throughout Canada products of the industrial-chemicals division and coating-resins department.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has appointed two new assistant directors of research: Dr. Chiles E. Sparks, former assistant manager of the development section, in nylon; and Dr. L. Frank Salisbury, former assistant director of nylon research, in acetate. The company has authorized $390,400 for the 1951-52 awards of 78 post-graduate and post-doctoral fellowships to 47 universities, and grants-in-aid to 10 universities, to stock-pile knowledge through the advancement of fundamental research in chemistry and other fields. Du Pont has ended the production of dull nylon yarns, but will continue to make yarn semi-dull.

General Aniline & Film Corp., New York, is increasing its production facilities for detergents and other surface-active agents with new construction and equipment plans representing an investment of more than $2,000,000. The new facilities are for the Grasselli, N. J., and Rensselaer, N. Y., plants. Some were recently completed and placed in operation, while others will become available this year.

Glass Fibers, Inc., Waterville, Ohio, will move next month to its new offices on the entire second floor of a new building being completed at 1810 Madison Ave., Toledo, Ohio. The floor area totals 7,620 sq.ft.

Hess, Goldsmith & Co., Inc., New York, recently appointed Raymond F. Clark vice president in charge of the industrial-products division. He joined the firm in 1947 as manager of the then newly formed division, after several years with Owens-Corning Fiberglas Corp. and Shell Oil Co.

Heyden Chemical Corp., New York, at the turn of the year made known the resignation of Dr. D. B. Keyes as vice president. Dr. Keyes, a director of the company, remains as a special consultant.

National Starch Products, Inc., New York, recently named Donald D. Pascal vice president in charge of sales. Formerly vice president in charge of Eastern and Pacific-coast sales division, Mr. Pascal succeeds Chester A. Gage, retired. S. F. Thune is now general manager of the Midwestern division, and Lester Klempner is sales manager of both the New York and Eastern divisions.

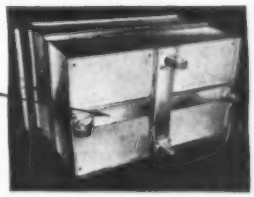
Foster D. Snell de Mexico,

New Stainless Steel

WET GOODS TRUCK

- **EASY TO CLEAN**
- **SNAG FREE**
- **RUGGEDLY BUILT**

Stainless steel body, cleans quickly
Stainless steel handles welded to body
Rolled edges prevent snagging of fabrics
"V" BRACE WELDED TO BODY
Truck tilts on center casters for easy maneuvering
Heavy duty, aluminum, ball bearing casters



This is the wet goods truck dyers have always wanted . . . built to stand rough handling for years . . . easy to clean . . . snag free . . . a truck designed to cut your handling costs. Standard width 3 feet, depth 30". Standard lengths 3 ft., 4 ft., 5 ft., 6 ft. Also built in sizes to meet your requirements. Send for Bulletin 7032.

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Blickman Built
STAINLESS STEEL TEXTILE EQUIPMENT
Dye Boxes, Linings, Cylinders, Dry Cans, Hoods, Tanks

UP TO 10 TIMES GREATER CAPACITY

—for your Water Softener with these Modern Zeolites!

Know how to step up the capacity of your water softener? Permutit has made it easy . . . by developing zeolites that give up to *10 times greater capacity*, up to 50% greater flow rate.

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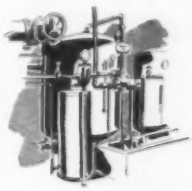
Why not convert your manually controlled softener to Permutit automatic controls? You will get a constant supply of clear, completely soft water . . . and save costly man-hours of labor and maintenance.



Write for full information to The Permutit Company, Dept. TW 2, 330 West 42nd Street, New York 18, N. Y., or to Permutit Company of Canada, Ltd., 6975 Jeanne Mance Street, Montreal, Canada.

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Hayssen Holds Down Your Wrapping Costs

Steady, dependable, automatic wrapping of packages is a job Hayssen Wrapping Machines have been doing successfully for more than 40 years. Low in initial cost, sturdily built, completely automatic, economical to operate, Hayssens keep the unit-cost of wrapping at a low level.

Six-sided, printed designs are accurately registered by the Hayssen Electric Eye. Easy adjustability to wrap many sizes on one machine reduces idle machine hours. Thermostatically controlled electric sealing ensures well-sealed packages that stay trim in appearance. Practically any type of wrapping material can be used. For complete information please contact the home office.

HAYSSEN MFG. COMPANY • SHEBOYGAN, WIS.

Hayssen
ELECTRIC EYE WRAPPING MACHINES

IT PAYS TO WRAP THE HAYSSEN WAY

News About SUPPLIERS (Continued)

Mexico City, Mexico, has been formed as a consulting, engineering, and development firm for Central American countries. J. Carner and J. Sperling are in charge of the Mexican subsidiary of the New York firm. For the present, laboratory and engineering facilities at New York and Bainbridge, N. Y., will suffice for the Mexican operation.

Tennessee Eastman Co., Div. of Eastman Kodak Co., Kingsport, Tenn., has been formed to supplant the former Tennessee Eastman Corp. The division will continue the same manufacturing, selling, and other activities, with no change in personnel or policies. A. M. Tenney Associates, Inc., New York, continues as the sales representative for Eastman fibers. The Longview, Texas, facilities, still in the construction stage, are expected to start production in the last quarter of this year.

A. M. Tenney Associates, Inc., New York, has established a new office in Greenville, S. C. Alan A. Clow and Archer E. D. Booker, sales, representatives, are at the new address. The Atlanta, Ga., and Greensboro, N. C., offices have been discontinued. Leslie L. Cobb and Vernon Kirkman continue to service Eastman fibers in the Greenville and Georgia territories, out of the new office.

U. S. Gutta Percha Paint Co., Providence, R. I., has appointed Fred McCarthy general sales manager. For the past seven years he had been trade-

WILLIAM J. PATTERSON, for nine years with Westboyd Chemical Co., Greenville, S. C., has been appointed field technical representative for Synthron, Inc., Ashton, R. I. He will represent the company in North and South Carolina.

sales manager for National Lead Co. Howard F. Eastwood is now a vice president of U. S. Gutta Percha, and Everett B. Nelson is advertising and sales-promotion manager.

Wyandotte Chemicals Corp., Wyandotte, Mich., plans to construct a new research center to enlarge the research and development activities of the firm. The new center, a two-story structure approximately a city block long and half a block wide, is scheduled for occupancy in about 18 months. Robert Fosburg, former field supervisor of the calcium-chloride department, has transferred as senior sales representative in the New York district office.

Other Services

Clemson Agricultural College, Clemson, S. C., recently received a gift check from M. Lowenstein & Sons, Inc., New York, in the sum of $25,000 to go toward equipping the textile building on the campus with post-war textile machinery.

North Carolina State College, School of Textiles, Raleigh, N. C., recently awarded the two-year Owens-Corning Fiberglas Corp., scholarship for the current academic year to Fay E. Larrison, a junior originally from Rockford, Ill. The Textron, Inc., scholarship for the academic year went to Joseph L. Clements, a senior and native of North Wilkesboro, N. C.

The Textile Institute, Manchester, England, recently celebrated the 21st anniversary of the grant of the Institute's royal charter, and the 40th anniversary of its formation. Total membership now exceeds 5,200. In 1950 more than 100 firms were elected patrons of the Textile Institute and its activities.

U. S. Dept. of Agriculture, Washington, D. C., is offering in 1951-52 four internships for research on utilization of cotton and other Southern crops, textile-testing methods, and vegetable oils and proteins. Interns will be located at Southern Regional Research Laboratories, New Orleans, La.

Style 20B
Doffing and Yarn Handling Box

Ask about our new FILLING-HANDLING system. Eliminates dumping and waste.

LANE

Canvas

Boxes and Trucks

Smooth—light, long lived.

Write for Catalog No. 1W.

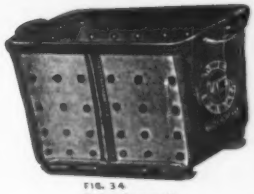

FIG. 34
Steaming and Conditioning Basket

rass grommets afford free and uniform ventilation. Snag proof.

Style 28
Narrow Aisle Truck

Light, easy running. Snag proof.

Style 27
Standard Type Truck

Lane trucks offer a variety of caster equipment, both iron and rubber.

W. T. LANE & BROS., Inc. Manufacturers Poughkeepsie, N. Y.

FOR EASY SLASHING . . . .

ADD

VANESTA-3

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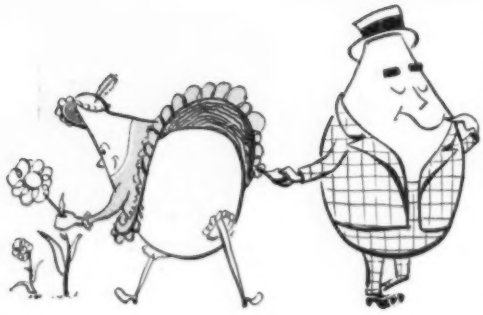

how to get a softer "hand" and a whiter "bottom"...

...THE *Versenes

VERSENES* VS CONTAMINATION

A softer "hand" and a whiter "bottom" can come only from cleaner fibres. This means that regardless of the textile itself or the wet process involved, fibre surfaces must be free from chemical contaminants and impurities — including insoluble soap deposits. Through the new chemistry of chelation, Versene permits you to achieve these highly desirable objectives.

VALUE OF VERSENES*

As powerful organic complexing agents the Versenes give you exacting chemical control over cations in solution. Thus do they prevent contamination and assure cleaner fibres. The Versenes are chemically known as the sodium salts of ethylene diamine tetra acetic and other polyamino acids. Available in liquid or powder form, they are completely stable at high temperature and at all pH's.

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Versene (regular), the original *Versene*, is a most efficient general complexing agent. It softens water completely and permanently *without* precipitation. *Versene Fe 3* prevents hard water deposits and iron stains. *Versene Fe 3 Specific* is the most powerful iron complexing agent known in the normal pH range. *Versene* T prevents and removes iron deposits from fabric treated with caustic.

"INDUSTRY'S MOST MODERN CHEMICALS"

Through the new chemistry of chelation, the Versenes can definitely help you better your textile formulations and processes. Write Dept. D for your free copy of Technical Bulletin No. 2. Send for samples. *Trade Mark

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Associated Chemical Co. of Canada, 14 Darrell Ave., Toronto, Ontario

NEWS ABOUT *Mills*

Cotton Mills

Anchor Rome Mills, Rome, Ga., is remodeling 48,000 sq. ft. of floor space and constructing an additional 21,000 sq. ft. for card and picker rooms with new equipment. Mill-village houses are being renovated and new ones constructed. Program will require about three years to complete. Production will increase 25%.

Athens Mfg. Co., Athens, Ga., one of Georgia's oldest textile companies, has been sold to Chicopee Mfg. Co. Mill, which employs approximately 500 persons, has 27,700 spindles and 589 looms.

Avondale Mills, Sylacauga, Ala., is constructing warehouse for handling of finished goods. Approximately 375,000 sq. ft. of floor space will be provided on each floor. Spiral chutes and elevators will handle the goods. Warehouse will be completely sectioned so that records can show exact location of any item in building.

Bemis Bag Co., Houston, Tex., has asked bids for one-story addition for warehouse. Cost is estimated at close to $100,000. Northrup & Northrup, Houston, are architects.

Bigelow-Sanford Carpet Co. Thompsonville, Conn., is having plans drawn by Lacey, Atherton & Davis, Wilkes-Barre, Pa., architects, for proposed new research laboratory, reported to cost about $500,000 with equipment.

Dominion Textile Co. Ltd., Montreal, Que., has let contract to Fraser-Brace Engineering Co. Ltd., Montreal, for one-story addition, about 82x90 ft., to mill at Magog, Que. Cost is estimated at about $125,000.

Double Shoals Yarn Mills, Shelby, N. C., has been sold to Slater Bros., Inc., Paterson, N. J. Double Shoals plant has 21 cards, 3,600 ring spindles, and 2,090 twister spindles. It is understood new owners plan to construct a weaving-plant addition.

Dover Yarn Mill, Stubbs, N. C., plans enlargement program which will cost between $150,000 and $200,000 and will double present size of plant. A two-story air-conditioned building will be erected at south end of present building.

Fullerton Cotton Mills, Inc., Newman, Ga., has construction well under way on addition to its spinning and twisting department. 5,000 spindles, 15 cards, and auxiliary equipment are to be installed.

Glendale Mills, Inc., Douglasville, Ga., is proceeding with work on large-scale modernization program. Additional space is being arranged to accommodate new equipment by relocating spooling and warping departments and providing new cloth and supply rooms. Program calls for installation of 125 Draper looms, a new humidification system, 35 additional cards, a new card-stripping system, and new packing equipment.

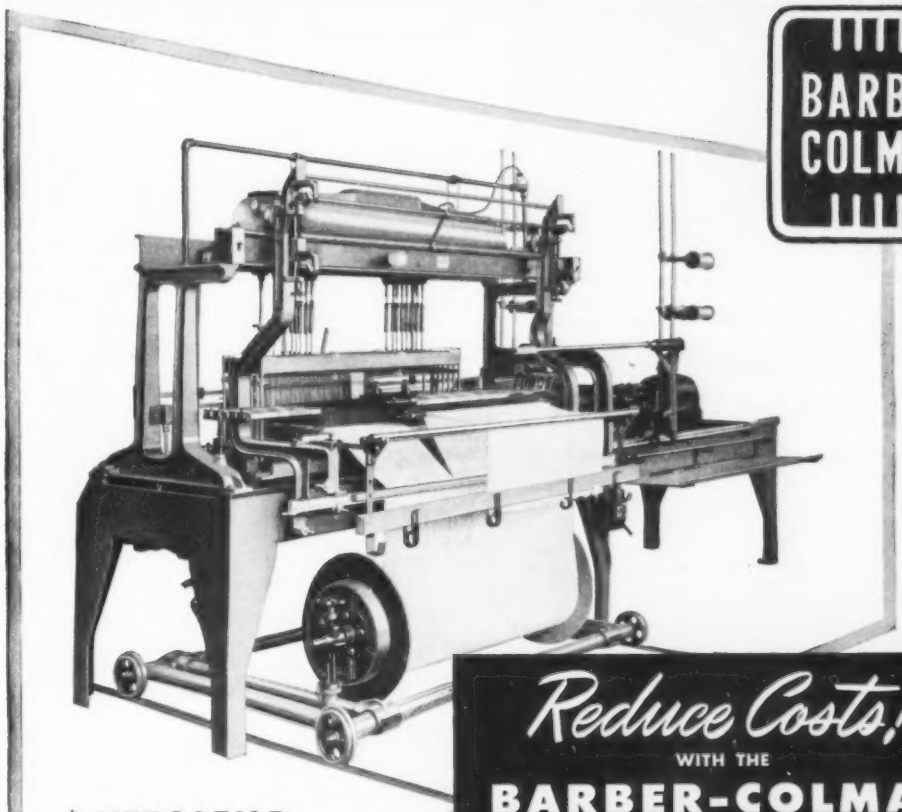
Harrison Mills, Atlanta, Ga., has been sold to a newly organized concern, Barbara Ann Yarn Mills, Inc. Machinery from Harrison mill is being moved to Maysville, Ga., where it is being installed in the Fickett-Brown Building.

Hoosac Mills Corp., New Bedford, Mass., has let contract to Theodore Loranger & Sons, New Bedford, for alterations and improvements in mill that are expected to cost about $24,000.

Kendall Mills, Newberry, S. C., has begun limited production in new gauze-weaving plant. Plant is equipped to process cotton from bale to finished product.

Laurens Cotton Mill, Lau-

BARBER COLMAN



★ VERSATILE...
★ ACCURATE...
★ EFFICIENT...

DRAWS IN HEDDLES, DROP WIRES, AND REED IN ONE OPERATION

Reduce Costs!
WITH THE
BARBER-COLMAN DRAWING-IN MACHINE

Many mills today are running such a variety of weaves, patterns, and stripes that the drawing-in operation becomes a major cost item. *Substantial savings* can be made by the use of a Barber-Colman Drawing-In Machine. This machine will handle any plain, fancy, or dobby weave. It draws-in all the heddles, drop wires, and reed in *one* operation — automatically selecting the proper heddle, drop wire, and reed dent for each thread. Any form of skip draw can be handled as easily as straight sequence, and the draw can be made from either a flat sheet or leased warp. The machine is available in a variety of capacities, drawing as many harness and banks of drop wires as required. Variations in size will take care of all standard loom widths. Modern mills of any size can take advantage of the versatility, accuracy, and efficiency of this outstanding machine to effect important savings in what has been a slow and costly hand operation. Consult your Barber-Colman representative for a discussion of possibilities in your own mill.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

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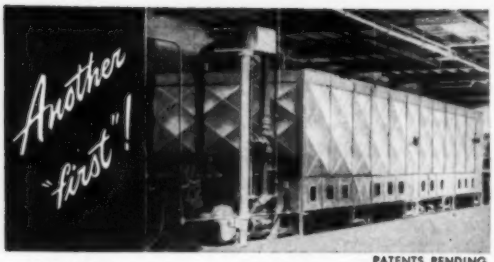
ROCKFORD • ILLINOIS • U. S. A.
FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND MUNICH, GERMANY



PATENTS PENDING

COMBINES the advantages of 3 types of oven-heating:

(1) INFRA-RED RADIATION (2) CONVECTED HEAT

(3) HEATED AIR—with added turbulence

CARBOMATIC "UNA-RAY" OVEN

Greatly increased efficiency! For example: *40* linear feet of "Una-Ray" Oven equal the productive capacity of *70* feet of a conventional oven-type. Saves thousands of dollars in equipment cost and operational economies. No burning, scorching, spotting or marking of goods. No crocking. No "gas fading" or color migration. Uniform color is insured.

A general-purpose oven (of any capacity needed) that provides accurately-controlled working temperatures up to 550°F. For drying; drying and curing in one operation; resin fusing; Nylon setting, etc. *Write for Bulletin TW-2.*

CARBOMATIC CORPORATION • Pioneers in Textile Infra-Red

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Southern Branch: Textile Specialty Co., Greensboro, N. C.

***New England Representative:* H. E. Linderson, 35 Westminster St., Providence, R. I.**

For Maintained Shrinkage— Perfect Finish—Long Life

HUYCK

→COMPRESSIVE SHRINKAGE←

BLANKETS

for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

***PALMER BLANKETS*—also available for your special requirements.**

Write for information or see our representative

F. C. HUYCK & SONS

KENWOOD MILLS

Rensselaer, N. Y.

NEWS ABOUT MILLS (Continued)

A NEW $2,000,000 THREAD MILL is being constructed by Belding-Corticelli Co. in Hendersonville, N. C., to produce Monocord thread of Orlon acrylic fiber, nylon, and Fiber V. McPherson Co., Greenville, S. C., are architects and engineers. Plans are so drawn that size of the new plant can be doubled if conditions justify it.

rens, S. C., has begun construction of a 17,000-sq.ft., two-story warehouse addition. This addition will be for raw cotton and finished fabrics. It will be constructed of brick, and will cost more than $50,000.

Richmond Lace Works, Inc., Alton, R. I., is constructing addition to be used for a new dye house and finishing room. New space will also provide extra employee accommodations, office space, and room for future expansion. Exterior finish at Alton plant will be brick-veneer over cinder blocks.

Riegel Textile Corp., Trion, Ga., has purchased modern manufacturing building of Merrimac Hat Corp., Greenville, Ala., in which it plans to manufacture work gloves.

Statesville Narrow Fabrics Co., Statesville, N. C., has moved into its new plant on Jackson St., where it will continue the manufacture of cotton tapes, webbing, and zipper tapes.

Swift Spinning Mills, Inc., Columbus, Ga., has asked bids for one-story addition for lunchroom and first-aid station for operatives. Robert & Co. Associates, Atlanta, Ga., is architect and engineer.

Textiles, Inc., which operates 11 mills in Gastonia, N. C., area has completed an extensive modernization and expansion program, except for work affecting Arlington plant, where operations have been delayed due to high equipment cost.

United Waste Co., East Dedham, Mass., has let contract to Eisenberg-Marden Corp., Boston, Mass., for one-story addition. Mark Linenthal, Boston, is engineer.

Ware Cotton Batting Co., New Orleans, La., has let contract to E. B. Ludwig Construction Co., New Orleans, for new warehouse. Cost is reported at about $120,000.

West Point Mfg. Co., Fairfax, Ala., has asked bids for new addition to local mill, including improvements in present building. Robert & Co. Associates, Atlanta, Ga., is architect and engineer.

White-Parks Mills Co., Concord, N. C., which was recently purchased by Linn Mill Co., Landis, N. C., has completed a 30x180-ft. addition. Speeders, slubbers, and drawing frames have been moved in, and additional spinning frames have been moved into old part of mill. A small addition has also been built to house cards.

Woolen and Worsted Mills

Alexander Smith & Sons Carpet Co. has announced plans to spend between $7,000,000 and $10,000,000 on a complete realignment and modernization of mill at Yonkers, N. Y. Some additional machinery will be added, but major part of program, which will proceed over a period of several years, is to be directed toward streamlining present production facilities. Company has also announced plans for a new carpet mill for manufacture of a new-type axminster fabric in Greenville, Miss. Plant is expected to cover about 600,000 sq. ft. of floor space and will employ about 300 people. Cost of equipment will be about $3,000,000.

Blackwood, Morton & Sons (Canada) Ltd., a subsidiary of

LEONARD

Thermostatic
WATER MIXING VALVES

Water Temperature Control

FOR WASHING
SCOURING
DYEING

OR WHEREVER PROCESS WATER MUST BE AT A STEADY TEMPERATURE TO GET THE BEST RESULTS.

SET IT ...
for 100°F,1 10°F, or any desired temperature.

FORGET IT ...
thermostatic control does the mixing and controlling.

Write for Textile Bulletin T-1

LEONARD VALVE COMPANY
1360 Elmwood Avenue, Cranston 7, R. I.

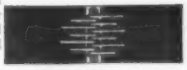
10 TIMES FASTER THAN STITCHING!

SPINDLE TAPE LACING EQUIPMENT

Lace spindle tapes 10 times faster with Clipper No. 25 Spindle Tape Hooks. Tapes can be prepared in advance so frame is shut down only long enough to place new tape on the pulleys and join ends with connecting pin. Tapes run true—last longer—run smoother—require less tension—VIBRATION IS ELIMINATED

CONDENSER TAPE LACING EQUIPMENT

Lace condenser tapes with Clipper No. 25 Condenser Tape Hooks. Clipper laced tapes, prepared in advance, can be installed in a fraction of the time required for endless tapes. Tape may be purchased in the roll at considerable saving.



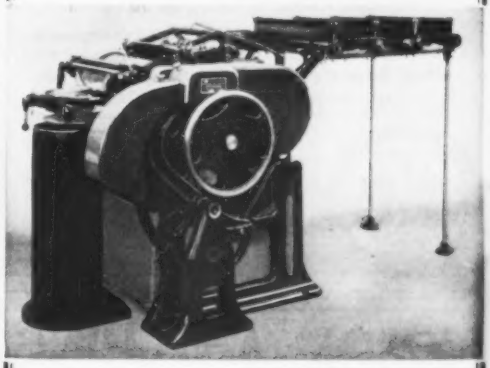
CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN

Clipper BELT LACING EQUIPMENT UL

THE YEARS HAVE PROVEN THEIR QUALITY:

OSA

WORSTED MACHINES for SYNTHETICS



Comb Adapted for Rayon

Sant' Andrea, long known as manufacturers of worsted machinery, today are also concentrating on developing machinery to process synthetic fibres. Combing, drawing and spinning of long staple synthetics on the worsted system are playing an ever-increasing role in creating new fabrics . . . Sant' Andrea machinery and technical assistance will help *you* achieve outstanding results in the processing of long-staple synthetic fibres.

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NOVARA, ITALY

Agents for U. S. A.
ERNEST L. FRANKL ASSOCIATES
22 East 40th Street, New York

BARNES SERVICE *Consulting Engineers*
TO THE TEXTILE INDUSTRY FOR OVER ½ CENTURY

The Changing Times and the Demands on Management Today

THE conditions under which business enterprises must be conducted are continually changing. Frequent adjustments in policies are necessary to meet changes in laws and other public controls, in social forces, in markets, and even in international economics. The problem of making these adjustments and at the same time keeping abreast of progress in the science and art of management has become a formidable challenge to executives. They are finding it more and more difficult to get time for policy making and administration and also for the inauguration of operating improvements. Moreover, these conflicting demands come at a time when it is more important than ever that planning be skillfully done, organization be flexible and responsive, operating procedures be appropriate, effective, and economical, and relationships among workers on all levels be harmonious.

(Excerpt from Association of Consulting Management Engineers pamphlet.)

The Barnes staff is available for counsel to busy textile executives.

Surveys—Reorganizations—New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing, Bleaching, Dyeing, Printing and Finishing.

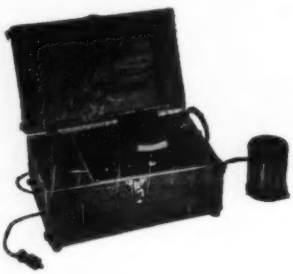
★ Plant Appraisals ★ Mechanical and Operating Surveys — New Methods ★ Scheduling and Planning ★ Work Load Studies, Job Analysis and Evaluation, with Incentive Plans ★ Standard Cost Installations ★ Cost Control Methods

Labormeter Burden-meter Waste-meter

BARNES TEXTILE ASSOCIATES, Inc.

10 HIGH STREET, BOSTON 10, MASS.
318 MONTGOMERY BLDG. SPARTANBURG, S. C.

COLOR MATCHING
with
PHOTOVOLT Photoelectric REFLECTION METER



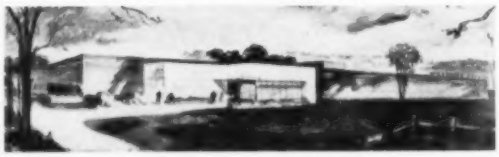
A truly practical precision instrument for color matching and for specifying color by tristimulus values, also for fading and detergency tests . . . for production, control and laboratory work.

Portable, sturdy, simple to operate

Write for Bulletin #605 to

PHOTOVOLT CORP.
95 MADISON AVENUE NEW YORK 16, N. Y.
Also: Colorimeters, Fluorescence Meters, pH Meters

NEWS ABOUT MILLS (Continued)



NEW WEAVING PLANT is being constructed in Honea Path, S. C., by Westover Mills, Inc., a newly formed corporation. The 90,000-sq.ft. building will be totally enclosed, air-conditioned, and will house between 400 and 500 looms for weaving synthetic fabrics. Daniel Construction Co., Greenville, S. C., is in charge of construction.

Blackwood, Morton & Sons Ltd., Kilmarnock, Scotland, is getting its new carpet-manufacturing plant at St. Thérèse, Que., into operation. Plant will produce axminster carpeting and a limited volume of wiltons.

Macon Textiles, Inc., Macon, Ga., has completed installation of new high-level illumination, expected to play an important part in increasing production of quality wool goods.

Peerless Woolen Mills, Rossville, Ga., will construct a new $200,000 high-school building in its mill village.

Wyandotte Worsted Co., Waterville, Me., plans to build a woolen manufacturing plant on a 260-acre site at Lakeview, N. C. Plant will cost more than $4,000,000.

Synthetics Mills

Abbeville Mills, Abbeville, S. C., division of Deering, Milliken & Co., has under construction a new $150,000 boiler plant, with Daniel Construction Co., Greenville, S. C., in charge of work. New plant will include a Babcock & Wilcox boiler, complete facilities for its operation, and piping for utilization of steam.

American Viscose Corp., Philadelphia, Pa., plans to add a churn-mix building at Nitro, W. Va. It will be four stories high, with a basement of brick and concrete-slab construction. R. M. Pfaszgraff, company engineer, is in charge of drawing up revised plans.

Brandon Corp., Greenville, S. C., has awarded contract to Daniel Construction Co., Greenville, for $30,000 re-roofing project. Work will include re-roofing of 59 dwellings in the mill village as well as various portions of the mill building.

Bruck Mills, Ltd., Montreal, P. Q., has placed orders with Whitin Machine Works, Whitinsville, Mass., for a complete blended-fiber spinning mill unit for use in company plant.

Burlington Mills Corp., Greensboro, N. C., has awarded contract for construction of one-story addition to Vamoco Mills, Franklinton, N. C.

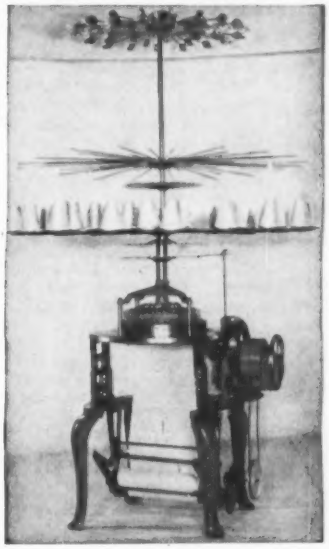
Consolidated Textile Mills Ltd., St. Hyacinthe, Que., has completed construction of its new mill in St. Hyacinthe. Cost is $450,000. Full operation may be attained by early summer.

Dunean Mills, division of J. P. Stevens & Co., Greenville, S. C., has awarded a contract for remodeling and renovation of its main offices in a separate building in Greenville. The project includes new private offices, rest rooms and lounges, a new lighting system, and complete interior redecoration.

Duplan Corp. has given up about 75,000 sq. ft. of floor space in a building now leased from the Hazleton, Pa., city authority. About 200 looms will either be sold or transferred to other company plants. Some will go to firm's Canadian mill. Operations at Hazleton have been reduced to 650 looms.

Haynsworth Mill, Anderson, S. C., is proceeding with construction of 96x186-ft. addition to warehouse, providing 17,000 sq. ft. of floor space.

Frank Ix & Sons Carolina Corp., Cornelius, N. C., has



Trouble-Free Knitting-High Production
By TOMPKINS

The Tompkins Model B-15 is a multiple feed latch needle machine engineered to produce maximum volume of work at minimum cost. Completely factory equipped, it requires only a few hours to install and place in operation. Simple design minimizes maintenance and attention—makes it easy to operate. Electric stop motion eliminates imperfections and waste—stationary take-up permits close inspection of cloth at all times. Available in cylinder sizes 9" to 24" and in gages up to 42.

Established 1846

Over a century of continuous service to the knitting industry throughout the world

TOMPKINS BROS. CO.

ONEIDA ST. INCORPORATED SYRACUSE, N. Y.

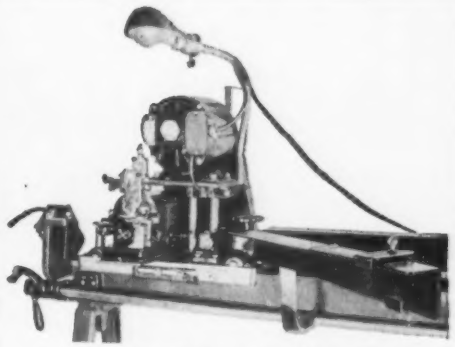
THE LOYAL T. **IVES** COMPANY EST. 1874

SPRING BEARD KNITTING NEEDLES

For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand, Transfer Points and Welt Hooks for Full Fashioned Machines; Slides, Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

Sheet Metal Specialties to Order

NEW BRUNSWICK NEW JERSEY



11A Railway Machine
Portable—Automatic—Motor Drive
with Merrow Butted Seaming Head

1. Built to sew any width of goods.
2. Railway frame is made of steel rails.
3. Built with Heavy Angle Iron Cloth Support.
4. *Hinged section* shown open. Eliminates removing Merrow Head to make adjustments.
5. The Merrow Head and Motor travel on ball bearings.
6. No adjustment necessary for different widths of cloth.
7. Fitted with our new Automatic Stopping Device. Stops the sewing head at end of each seam.
8. Can be furnished on short legs for setting on bench, table, or Beamer, and can be easily applied to your present machines.
9. Can also be equipped with Dinsmore single Chain Stitch Sewing Heads.

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Sold Also Textile World

DINSMORE MFG. CO.

SALEM MASS.

CALDWELL TANKS—
First Choice of the Textile Industry!

Caldwell offers the industry a complete tank service, including solid Stainless and Stainless-lined wood tanks and tubs, of any shape or size.

If you're thinking of installing or replacing a tank, let our 60 years' experience in building high-grade tanks serve you. *Send for our catalog, today!*

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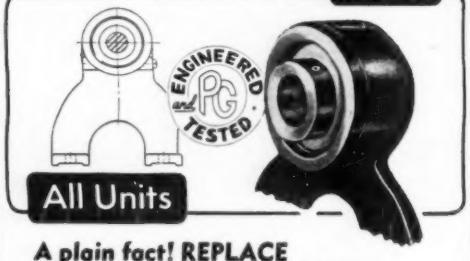

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News About Mills (Continued)

changed its name to Frank Ix & Sons Sheraton Mills Corp.

North American Rayon Corp., Elizabethtown, Tenn., plans new addition to power plant at mill. Stone & Webster Engineering Corp., Boston, Mass., is engineer.

Owens-Corning Fiberglas Corp., Newark, Ohio, is constructing a one-story addition to its local plant. Cost is reported at over $35,000, exclusive of equipment.

Rocky Mount Rayon Mills, Rocky Mount, N. C., has begun work on an addition to its present plant which will double its size. Program will mean additional personnel and increased production. New employee lounges and better working conditions will be provided. Completion is expected by early summer.

St. Johns Silk Co. Ltd., St. Johns, Que., is erecting a one-story addition, 32x30 ft., to its present mill building at same location. Walls are of concrete block. Cost is $11,000, according to reports.

Schneider Silk Co., Taylorsville, S. C., has closed bids for one-story addition. Biberstein & Bowles, Charlotte, N. C., is architect.

J. P. Stevens & Co., Inc., New York, has started construction on new $4,000,000 plant near Wallace, N. C., which will have a floor area of between 170,000 and 200,000 sq. ft. and will employ about 300 persons. Fabrics from synthetic yarns will be produced. Plant will be part of Carter Fabrics operating group. Contract for plant has been let to C. M. Guest & Sons, Greensboro, N. C.

Williamston Cloth Mills, originally Gossett Mills, Williamston, S. C., now a unit of Textron Southern, has begun construction on a $1,000,000 addition. Expansion will increase number of looms by more than 54% and will add 27,840 sq. ft. of floor space to existing mill building. There will be 11,808 additional spindles and 375 more looms.

Knitting Mills

Airmaid Hosiery Mills, New Braunfels, Tex., plans new one-story addition. Jeramiah Schmidt, New Braunfels, is architect.

Austin Hosiery Mill, Albermarle, N. C., has completed addition which will add about 3,400 sq. ft. of floor space. New section will accommodate six full-fashioned hosiery machines. Mill's seaming and looping department, formerly housed in original building, has been transferred to new section.

Bear Brand Hosiery Mills, Chicago, Ill., plans to open branch plant at Kearney, Neb., where firm will manufacture full-fashioned hosiery and employ about 120 persons.

Berkshire Knitting, South Africa, Ltd., East London, South Africa, will establish complete full-fashioned knitting mill when Berkshire machines are installed. Mill is expected to be ready by March. David Hill, former company credit manager, is managing director, and David Ketner, former company chemist, is director of operations. The South African plant was originally established in 1948 as a finishing plant only, handling gray goods shipped in from the U.S. Fourteen 26-section 51-gage machines have been removed from Berkshire plant in Reading, Pa., and shipped to East London.

Robert Bruce Knitwear Co., Philadelphia, Pa., has moved all warehousing and shipping facilities from its other plants to its new building at Hancock and Allegheny Ave. in Philadelphia. Company expects all operations to be consolidated in new quarters by end of March. Contract was recently let to John E. Spitz, Philadelphia, for alteration to fire tower.

Carroll Mills, Carrollton, Ga., has completed a new addition, and knitting machines are being installed.

Dover Mill Co., Shelby, N. C., has installed nine tricot-knitting machines on ground floor, marking entry of this firm into new field of cloth production. Machines produce knitted cloth 168 in.

Have you heard? General Mills FibRsiZ—a new *wheat* starch for warp-sizing of viscose and acetate rayon fibres. Advantages reported by satisfied users include:

Better weaving performance. Used properly, General Mills FibRsiZ eliminates balling and fuzzing.

Lower softener (plastisizer) requirement. General Mills FibRsiZ is competitive in user's formula because of reduced need for expensive softeners.

Excellent rinsability. General Mills FibRsiZ's rinsing properties make it easy to remove from fabrics.

Smooth, flexible films.

Stability under agitation. General Mills FibRsiZ has good viscosity—does not thin out under agitation. Also no harmful set-back or "gelation."

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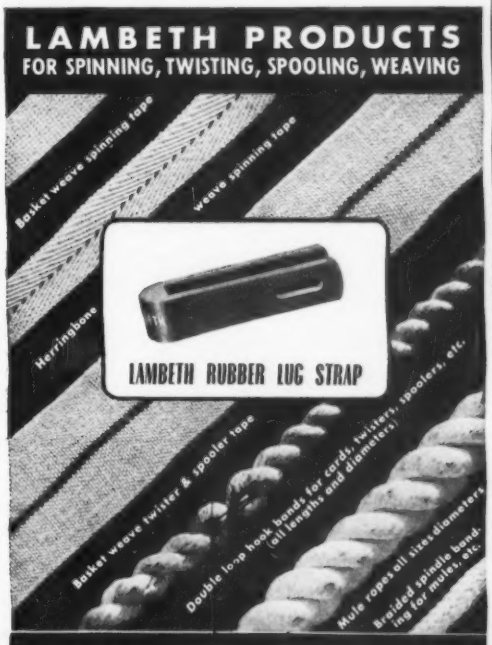
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wide, ranging from 15-den. sheer nylon net to 55-den. acetate jersey. Other knitted material for women's wear will also be made.

Ellisville Hosiery Mills, Inc., Ellisville, Miss., has installed six new Reading 51-gage knitting machines, bringing their total to 20.

Montgomery Knitting Mills, Inc., Summerville, Ga., plans expansion of finishing department. Company manufactures infants' hosiery and anklets.

Mount Pleasant, Tenn.—A modern industrial building now under construction at Mount Pleasant will be leased to N. A. Malesky of St. Louis, Mo., for full-fashioned hosiery manufacture. The one-story, 10,000-sq. ft. structure is being built by J. M. Hamilton, local druggist. Completion by mid-1951 is anticipated, with initial employment of about 100 workers.

Native Laces & Textiles, Inc., New York, will increase its tricot-production facilities by 50% at its affiliated plant, Natona Mills, Inc., Dallas, Pa. Installation of additional 168-in. high speed tricot machines began in January, and completion is expected by mid-year.

Port City Hosiery Mills, Inc., a new concern, has purchased Full-Knit Hosiery Mills, Inc., a subsidiary of Chadbourn Hosiery Mills, Wilmington, N. C. Operations are expected to begin soon.

Strutwear, Inc., Minneapolis, Minn., is locating a branch plant in Clarksdale, Miss. Company expects to have plant ready for operation by April. About $375,000 is involved.

Vanity Fair Mills is conducting sewing operations in a cotton warehouse in Atmore, Ala., while its new local plant, Escambia Mills, is being erected. New plant will be same size as Marengo Mills in Demopolis, and it is expected that between 200 and 300 persons will be employed. C. E. Johnson, formerly sewing-room foreman at Monroe Mills, Monroeville, Ala., has become plant superintendent.

Vanta Co., an affiliate of Shawmut Co., Stoughton, Mass., plans to build an additional mill at Montezuma, Ga., to expand production of its knitwear lines. Addition will increase firm's Southern manufacturing space approximately 60%. Plant adjoins building which Vanta opened early this year as its first Southern garment plant. New building will open in April.

Dyeing and Finishing Plants

Delta Finishing Co., Wallace, N. C., division of J. P. Stevens & Co., Inc., has been completed. Located near Pee Dee River, plant proper consists of three buildings: dyeing and finishing plant, steam plant, and filter plant. Over-all floor space in these buildings is about 250,000 sq. ft.

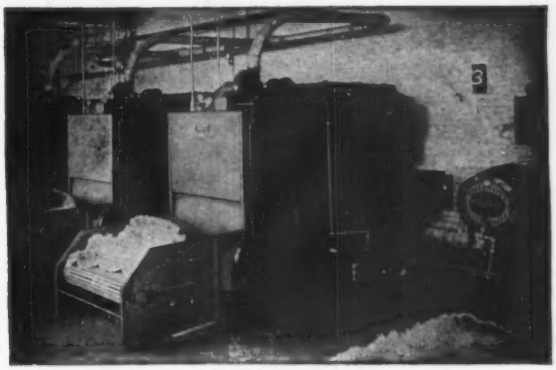
Kenyon Piece Dye Works, Kenyon, R. I., is building a two-story addition which will provide 18,000 sq. ft. of space. Addition is of steel, frame, and masonry. It will be used for storage.

Santa Barbara Plastics Corp., Santa Barbara, Calif., will begin manufacture of vinyl plastic-coated fabrics if Santa Barbara City Council approves lease of an airport building in Santa Barbara. Firm will produce such peace-time items as fabrics for upholstery, shoes, and tablecloths; and such military items as fabrics for ponchos, tarpaulins, and tents.

Scientific Dyes, Inc., 165 Main St., Lodi, N. J., has been organized by Joseph Spevack, formerly with Spevack & Garbaccion, Inc., Rutherford, N. J. Company will specialize in yarn dyeing and narrow-fabrics processing.

United Piece Dye Works, Lodi, N. J., recently acquired a 44-acre site at Charleston, S. C., and plans to construct plant for finishing, dyeing, and printing of fabrics. First unit is expected to cost over $1,000,000 and employ 200 persons. Francisco S. Jacobus, New York, is architect and engineer.

MINEROL FIRST and FOREMOST CONDITIONING AGENT for Textile Fibres.



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EMPIRE TEXTILE MILL CRAYON
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NEWS ABOUT Men

John Anderson has become day superintendent at Winthrop Mills, Winthrop, Me. **Norman D. Hamel** has become overseer of dyeing.

Harry V. Banks has been appointed comptroller of Wamsutta Mills, New Bedford, Mass., succeeding **Richard N. Stone,** who has been appointed director of sales-service department. Mr. Banks was formerly comptroller of Dover Stamping & Mfg. Co., Cambridge, Mass.

Warren A. Beh, director of sales of the nylon division of the Du Pont company for 20 years, has been appointed general manager of the industrial fabrics division of Textron, Inc. The new division will develop synthetic fabrics for both the military and industry.

Ralph Bergman is now in charge as superintendent at Manton Mill of American Woolen Co., Manton, R. I.

Abraham Berkowitz, of Boston, Mass., has succeeded the late Jacob Ziskind as president of Verney Corp. of Canada Ltd., Granby, Que. Mr. Ziskind was also treasurer; and his brother, **Abraham Ziskind** of Crescent Corp., Fall River, Mass., has been appointed to that office. **L. Nelson Thompson,** general manager since 1949, has become vice president. He will continue as general manager. **Albert Edge** of Granby has been appointed comptroller.

Richard E. Bonner, secretary of Dyersburg Cotton Products, Inc., Dyersburg, Tenn., has been elected a director of the company.

William Bosquet has resigned as overseer of dressing at Puritan Mills of American Woolen Co., Plymouth, Mass., and has taken a similar position with Collins & Aikman Corp., Bristol, R. I.

Ralph G. Boyd, president of West Point Mfg. Co., West Point, Ga., was named a director of Lanett Bleachery & Dye Works and made chairman of its board at the annual meeting held in Lanett, Ala.

WILLIAM H. RUFFIN, president and treasurer of Erwin Mills, Inc., Durham, N. C., since 1948, was recently elected president of the National Assn. of Mfgrs. for 1951. Mr. Ruffin began his business career with Erwin in 1921 as an apprentice in the weave room.

Roy E. Burdett has been appointed Northern manager of the entire Lawrence, Mass., division of Pacific Mills, where he will assist the vice president, Webster E. Plaisted. Mr. Burdett had been superintendent of manufacturing in the company No. 10 Mill in Lawrence.

Norman D. Cohen has been appointed head of the knitted-fabrics division of Native Laces & Textiles, New York. Mr. Cohen has had 15 years' experience in this field and was formerly sales manager at William Heller, Inc., and Cohn-Hall-Marx.

Herman Cone, Jr., has been promoted to assistant manager, administrative, and **Jack Hughes** to assistant manager, operations, of Revolution Rayon Div. of Cone Mills Corp., Greensboro, N. C. **Luther D. Smith,** who had been active superintendent of rayon weaving, has been promoted to superintendent. **Tracy Burke**

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Cotton yarns, single and ply
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Colored yarns and warps
Spun rayon—yarns and warps

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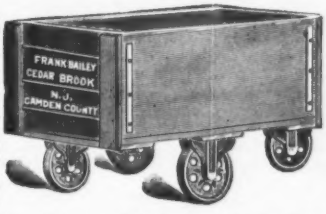

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GREENVILLE, S. C. FALL RIVER, MASS.

News About MEN (Continued)

has been promoted from assistant overseer to overseer of weaving in the rayon-weaving division.

Marvin Crawford, connected with Avondale Mills, Sylacauga, Ala., as general superintendent, recently resigned to accept a position with Dan River Mills, Danville, Va.

V. R. Cromer has been elected vice president of Howell Mfg. Co., Cherryville, N. C., succeeding Carl V. Cline, who continues on board of directors.

David J. Crowell has become superintendent of Wennonah Cotton Mills, Lexington, N. C., filling vacancy created when **Earl E. Riddle** was promoted to general manager of mills some months ago. **Earl L. Stewart,** who has been with Republic Cotton Mills, Great Falls, S. C., division of J. P. Stevens & Co., Inc., since his graduation from N. C. State College School of Textiles in 1948, has assumed duties with Wennonah Cotton Mills as head of the new cost and standards department.

Percy S. Curry is newly elected president of Bland Hosiery Mills, Inc., of Bland, Va. Other new officers include **R. F. Robinette,** vice president, and **Anna Y. Curry,** secretary-treasurer.

J. A. Dixon was recently appointed assistant production manager of yarn division of Courtaulds (Canada) Ltd., Cornwall, Ont. Mr. Dixon had been merchandising manager of company for past year, with headquarters in Montreal. He joined the firm in 1947 after spending two years with the parent company in England.

George Drummond has resigned as cloth superintendent at Faith Mills, Averill Park, N. Y.

Charles F. Dyson, former vice president of merchandising organization of Burlington Mills, Greensboro, N. C., has been elected a vice president of the parent company.

J. Roy Fant, for many years secretary of Monarch Mills, Union, S. C., has retired for reasons of health.

Ernie Freeman has recently been appointed chief chemist for Riegel Textile Corp., Trion, Ga.

Shirley D. Gardiner, assistant treasurer of Fruit-of-the-Loom, Inc., Pontiac, R. I., has been elected secretary. Mr. Gardiner has been with company and its predecessor, B. B. & R. Knight, since 1921, and assistant treasurer since 1925. He fills the vacancy caused by the recent death of Robert L. Anthony.

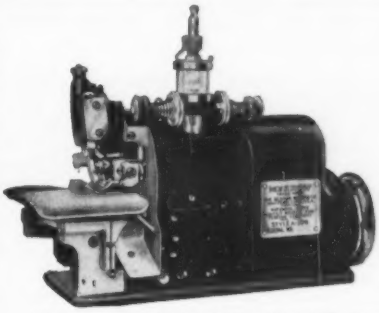
FLOYD W. JEFFERSON, chairman of the board of Iselin-Jefferson Co., Inc., New York, has been recalled as president of the New York Board of Trade. Mr. Jefferson previously served as president of the organization in 1948, as chairman of the board in 1949, and as chairman of the board's executive committee in 1950.

Karl F. Gatlin, until recently with Kendall Mills, Newberry, S. C., has become associated with Montgomery & Crawford, mill supplies, Spartanburg, S. C., as sales representative in central North Carolina.

Francis M. Gilman has been promoted to assistant to technical vice president of American Enka Corp., Enka, N. C. For more than a year, he had been assistant to plant industrial-relations engineer.

William J. Goldsworthy has been appointed supervisor of preparatory department at new Duplan Corp. plant at Burnsville, N. C. Mr. Goldsworthy has been with company for 33 years. **John Macara** has also been appointed as a supervisor.

John H. Halford has retired as vice president of James Lees



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For Use on Knitted and Woven Wear of all Kinds

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Obtain Maximum Quality Production by Using a Machine Suitably Arranged for Your Work—Our Distributors or Our Direct Representatives Are on Call to Advise You on Suitable Machine Arrangements for Various Results and Proper Care and Operation of Machine.

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Up-to-Date Machines

Needles

Economy Makers

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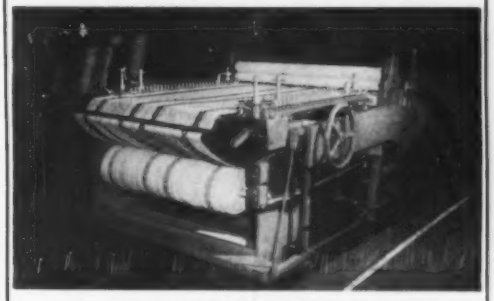
STEAM FINISHING MACHINES



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NEWS ABOUT MEN (Continued)

& Sons Co., Bridgeport, Pa.

Clifford Hargreaves is new vice president of Canadian Celanese Ltd., Montreal, Que., and Cornwall, Ont. He was formerly plant manager of the company Drummondville and Sorel, Que., plants.

R. W. Hassett has become overseer of weaving for S. Stroock & Co., Newburgh, N. Y.

Joseph M. Hastings has become general manager of Duesberg-Bosson Woolen Spinning Co., Jefferson, Mass. He succeeds **Charles F. Millward. L. E. Macomber,** overseer of carding for the firm, has resigned.

Reginald Hays has gone to South America, where he will become general manager of Celanese Colombiana S. A. plant near Cali, Colombia, now under construction as an acetate-filament plant. Mr. Hays had been manager of Hopewell, Va., plant of Celanese Corp. of America since 1945. He has been succeeded in that position by **L. F. Prossen,** former assistant to vice president.

William Hockridge has become overseer of dyeing at Consolidated Textile Co., Inc., North Adams, Mass. He succeeds **W. Deady,** resigned.

P. A. Holt has been elected president of Bradford Dyeing Association (Canada) Ltd., Toronto, Ont., succeeding **H. S. Leybourne,** resigned. Mr. Holt was formerly joint managing director of the company in England. **L. Bourne** has been named general manager.

Edward Hopkinson, Jr., William H. Loesche, D. F. McCullough, and **R. W. McCullough** have been added to board of directors of Collins & Aikman Corp., New York, thereby increasing the membership from eight to twelve.

Malcolm G. Jones, former director of production for acetate division of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has been appointed director of sales for company nylon division, succeeding **Warren A. Beh,** resigned. Mr. Jones has been with Du Pont since 1929, when he joined the company Waynesboro, Pa., rayon plant as a spinning foreman.

William J. Leath has been elected a vice president of Chadbourne Hosiery Mills, Inc., Charlotte, N. C., and executive vice president and general manager of Full Knit Hosiery Mills, Inc., Burlington, N. C., a subsidiary.

Roland L. Lee, Jr., has been appointed chief of the textile division of the U. S. Tariff Commission, Washington, D. C., succeeding **W. A. Graham Clark,** retired. Mr. Lee was with the Department of Agriculture for 13 years. A charter member of the Fiber Society, he has also been active on Committee D-13 of the ASTM.

John Leighton has resigned as overseer of finishing at Wyandotte Worsted Co., Waterville, Me.

John McArthur, executive assistant to officers of Erwin Mills, Inc., Durham, N. C., for over 2 years, has been named comptroller of the company, a newly-created post, in which he will deal with corporate financial affairs, internal auditing, and coordination of accounting procedure of all departments.

Lanham McCauley, La Fayette, Ga., has been promoted to superintendent of Sudamtex Mills, Maracay, Venezuela. Mill is owned by United Merchants & Manufacturers, Inc., New York.

James McDade has resigned as manager of mercerizing and bleaching department of J. & P. Coats, Inc., Pawtucket, R. I.

Robert C. McGuirk, executive of Huffman Full-Fashioned Mills, Morganton, N. C., has resigned. He is forming his own company, to be known as Robert C. McGuirk & Associates, Inc.

Robert Moody has become plant superintendent of Sulloway Hosiery Mills, Franklin, N. H.; and **Lloyd Kimball** has become assistant superintendent of seamless-knitting department.

Earl B. Morgan, Sr., vice president of James Lees & Sons Co., Glasgow, Va., in charge of industrial and public relations, has retired after 17

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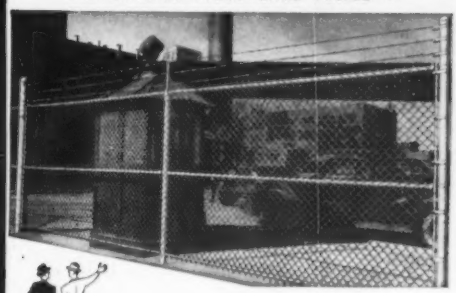

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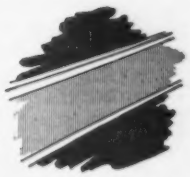

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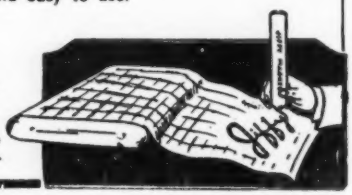
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News About MEN (Continued)

years with company. Mr. Morgan plans to continue to do some management-engineering consulting work.

Walter A. Murphy has been appointed controller of Alabama Textile Products Co., Andalusia, Ala. He was formerly vice president of Armstrong Tire & Rubber Co., and general manager of the company Natchez, Miss., plant.

Joseph W. Powdrell, cofounder and president for some time of Powdrell & Alexander, Inc., Danielson, Conn., has retired from active service in accordance with company retirement plan. He has also been chairman of board of company and of Gosnold Mills Corp., a wholly-owned subsidiary. **James Bolton**, who has been executive vice president of Gosnold Mills, has been named president of that company. **Herbert H. Rapp** has been elected treasurer in addition to his present offices with parent company as vice president and treasurer. Mr. Powdrell will continue as a director, but office of chairman of board will remain vacant.

Karl Reaber, former manager of Taunton, Mass., plant of Verney Corp., has been appointed manager of Manchester, N. H., weaving plant of Textron, Inc.

James H. Riddle, general manager of North Carolina Finishing Co., Salisbury, N. C., has been elected vice president, and **Edward T. Taylor** new treasurer in addition to his former position as secretary. **Julian Robertson**, president of company, formerly held position of treasurer.

John A. Shields, former textile technician for Stehli & Co., New York, has been named director of fabric development and technical service for Textron, Inc.

H. F. Thomas has resigned as superintendent at Stonecutter Mills Corp., Spindale, N. C.

W. B. Thomas, general superintendent of Mooresville Mills, Mooresville, N. C., has left the company.

Roy Thurmond, associated with Jordan Mills, Inc., Columbus, Ga., for more than 20 years, has been appointed treasurer to succeed **C. L. Pierce**, who is retiring after 17 years of service. **Harold Ruff** has been named secretary and will continue as company purchasing agent.

Bernie Ward has become assistant superintendent of plant of A. D. Juilliard & Co., Inc., Stottville, N. Y.

J. Duncan Webb has been elected controller of Dan River Mills, Danville, Va., succeeding **T. A. Bassin**, resigned. Mr. Webb was formerly with U. S. Rubber Export Co. **George C. Peters** was named to newly created post of safety engineer at Dan River.

William H. Young is new plant manager of Hamilton Cotton Co. Ltd., Hamilton, Ont. He was appointed assistant plant manager in 1949.

Edwin Zollinger has been appointed superintendent at Tingue Mills, Inc., Seymour, Conn.

OBITUARY

William R. Elsas, 45, president of Fulton Bag and Cotton Mills, Atlanta, Ga., died recently after a fall while riding horseback.

Wilfred Gray, 70, retired president of Gray Line Hosiery Co., Eddington, Pa., and one of the founders of Largman, Gray Co., died recently.

K. L. Jones, 65, founder of the Atlanta Braid Co. and Jones Machinery Co., both located in Atlanta, Ga., died recently.

Charles W. Nicholls, former president of Richmond Hosiery Ltd., London, Ont., died recently.

Frank Sumner, 76, former president of Sumner Co., Columbia, S. C., died recently.

Howard S. Borden, 74, first vice president of Borden Mills, Inc., New York, died in December.

Walter F. Daboll, southern representative for Watson-Williams Mfg. Co., Millbury, Mass., for 25 years, died recently. He was also associated with Watson and Desmond of Charlotte, N. C., at the time of his death.

Waldemar Ekstrand, 71, overseer in the dyeing department of Cyril Johnson Woolen Co., Inc., Stafford Springs, Conn., for the past 25 years, died recently.

John R. Hindmarsh, foreign sales manager for Platt Bros. (Sales) Ltd., Oldham, England, died recently while in Greenville, S. C., on a business trip.

James H. Hull, 75, who retired last year as sales manager and director of Paragon Worsted Co., Providence, R. I. died recently.

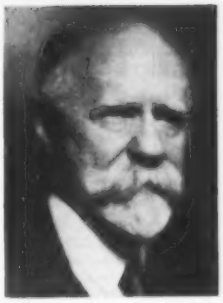
W. Harold Hylton, 40, chief of the technical laboratories of Berkshire Knitting Mills, West Reading, Pa., died recently.

Thomas C. Morris, 64, chief engineer of the nitrogen division of Solvay Process Co., Hopewell, Va., died recently.

Fred Moss, 48, supervisor of woolen experimental division of Whitin Machine Works, Whitinsville, Mass., died recently.

Aaron B. Quinn, 48, in charge of purchases for J. P. Stevens & Co., Inc., Greensboro, N. C., and executive assistant to W. J. Carter, head of Carter Fabrics operating division of the company, died recently.

ROBERT J. BARTHOLOMEW, 78, chairman of the board of Fletcher Works, Inc., Philadelphia, Pa., died recently. Associated with the company for over 50 years, he became president in 1940 and chairman in 1950.



WILLIAM B. BELL, 71, president of American Cyanamid Co., New York, since 1922, died recently of a heart attack while on a business trip in French Morocco.

John A. Ward, 35, planning engineer at Wood Mill of American Woolen Co., Lawrence, Mass., died in an automobile accident recently.

William H. Webb, 43, supervisor of dyeing department of Hopewell, Va., plant of Celanese Corp. of America died recently.

Pinkney N. Heath, 60, superintendent of Pannill Knitting Co., Martinsville, Va., died in December.

William A. Le Van, 51, general superintendent for the past 17 years of Laureldale plant of Karl Lieberknecht, Inc., died recently in Reading, Pa.

Charles W. Emery, 53, overseer of weaving for 15 years for Wyandotte Worsted Co., Waterville, Me., died recently.

J. Eugene Hamilton, 45, general overseer of weaving at Grendel Mill, Greenwood, S. C., died recently.

Patrick J. Mullen, 61, foreman at A. & M. Karagheusian, Inc., Rosselle, N. J., for 20 years, died in December.

Sam F. Poore, 37, overseer of sample department of Ware Shoals Bleachery, Ware Shoals, S. C., died recently.

Henry Rathbun, 71, overseer at Montrose Mills, Woonsocket, R. I., died in December.

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NEW—USED—REBUILT McDOWELL

TEXTILE MACHINERY 2568 PARK AVENUE

Executive Offices and New York Warehouse

Immediately

DYEING AND FINISHING

5 BATCHERS 2 roll, 50"-64" with rack and pinions
1 Van Vlaan. BOIL OFF MACHINE, 7 drums, S.S., B.B.
1 P.&W. DESPECKER 90" B. B. equipped
1 Van Vlaan. BUTTON BREAKER, 50" brass rolls
1 CALENDER, tubular knit goods 54"
1 CALENDER, 3 roll 44" mtrzd.
1 CALENDER, 5 roll 44" belt driven
1 CALENDER, 4 roll 112" mtrzd.
1 CALENDER, Schreiner, 2 roll 60 ton 40", mtrzd.
2 CALENDERS, embossing 54" #2 treshark pattern
1 Hunter CARBONIZING DRYER, 66" Hydraulic squeeze rolls
1 Meadows COATING UNIT, knife, head, dryer and aas chamber
1 Yorkshire CRABB, 2 bowl, S.S. 72"
1 P.&W. SEMI DECATUR 72" x 12" dia. cylinder, new blanket
1 P.&W. SEMI DECATUR double cylinder 72"
1 set of 6 copper DRY CANS 72" x 36" dia.
1 set of 21 steel DRY CANS 74" x 29" dia.
1 Philadelphia LOOP DRYER revolv. stick, air fin blowers
1 P.&S. LOOP DRYER, revolv. stick, air fin blowers
1 National Model E LOOP DRYER, revolv. stick, air fin blowers
1 Hurricane PACKAGE DRYER, 2 comp. unit
1 Philadelphia PIN TENTER DRYER, 6 pass 72"
1 Sargent RAW STOCK DRYER, 1700 lb. cap. 8 fan
1 Sargent RAW STOCK DRYER, 65" width, 6 fan, approx. 1000 lb. cap.
2 R.&L. Enclosed S.S. DYE KETTLES, 12 string
1 sample DYE KETTLE monel, 2 compartment, S.S. reels
1 Obermaier C.I. PACKAGE DYEING MACHINE 22 sp. 100 lb.
3 Scribner S.S. RAW STOCK DYEING MACHINES, pressure type, approx. 500 lb. cap. units
1 SKEIN DYEING MACHINE, 64 stick 350 lb. cap
1 Van Vlaan. EXTRACTOR 48" rubber lined basket
1 Morrison Horizontal EXTRACTOR for 50" goods
2 FULLING MILLS double comp.
10 Bahnson HUMIDIFIERS with ¼ HP motors
1 Textile MERCERIZING TANK, 4 comp. with squeeze sets and wash box
1 Smith Drum SKEIN MERCERIZER 54" skein, 24 pole unit
1 New Woonsocket B.B. NAPPER 36 roll, 86"
1 Woonsocket D.A. NAPPER 20 roll, 100"
2 Gessner S.A. NAPPERS 16 roll, 80"
1 New Werner 3 roll PADDER, 70" airset
1 Textile PRINT MACHINE 2 color, 45" with 12-50" copper dry cans
4 Nash PUMPS #3 and # 4 with motors
1 Sargent 4 bowl SCOURING RANGE, 48" with Hunter 6 section dryer
1 McNaught 4 bowl 26" SCOURING RANGE with P.&S. dryer
1 Arlington SCUTCHER 72" 2 beaters and 2 scroll rolls
1 Merrow 60 D-3-B SEWING HEAD
1 P.&W. SHEAR 80½" double blade
1 C.&M. carpet SHEAR 9 ft.
2 C.&M. cross cut SHEARS for 18"-20" carpet
1 Johnson 5 can SLASHER 60", 14 beam creel
2 Schoenherr Hot Air SLASHERS, double size boxes, accommodating 96" beams
1 Hunter SQUEEZE SET 72", 2 roll pneumatic pressure
1 Mowaco full SHRINKING MACHINE, single cylinder 80" width
4 Wet TEASEL GIGS 66", motors and controllers
1 Van Vlaan. Clamp TENTER FRAME, 40 ft. long x 52" width, B.B., S.S. Plates and Inserts
1 Butterworth Clamp TENTER FRAME, 50 ft. long x 80" width, Infra-red burners S. S. clips
1 Morrison Clamp TENTER FRAME 30 ft. long x 84" width B.B. equipped, S.S. plates and inserts
1 Pin TENTER FRAME, 50 ft. long x 70" width with Modine Heater, fan, and enclosure to cover bottom of machine
1 Textile Company Pin TENTER FRAME 60 ft. long x 72" width double row S. S. pins, machine mtrzd.
4 WASHERS 72" equipped with 2 rubber rolls 8" dia.

CARDING AND SPINNING

1 S-L #4 BALE BREAKER 13 ft. extended apron
1 Economy BALER, heavy duty, down stroke 27" x 54"
1 D&F worsted BALLING HEAD
6 Ruf BALLING MACHINES 16 sp. each, 7" ga.
20M BOBBINS 3 rinq, 7⅛"
150M Slubber BOBBINS, 12⅛" overall
5M Twister BOBBINS, 8⅛" overall, 3½" dia.
1 D&F BREAST 72 x 18 metallic wire
1 D&F Iron Finisher CARD 60 x 60 with 36" dia. doffer
1 Platt single cylinder BREAKER CARD 72 x 52 with 36" dia. doffer
1 D&F single cylinder Iron CARD 60" x 54" dia. with ring doffers 18" dia.
2 D&F Iron single cylinder CARDS 60' x 60" with 30" dia. doffers
8 SACM 2 cylinder worsted CARDS, 50", re-clothed
3 D&F Iron 2 cylinder CARDS, 48" ring doffers
1 D&F Iron 3 cylinder CARD 60" x 60" with 96 end tape condenser
2 Furbish 4 cylinder CARDS 60" x 48" dia. tape condensers 96 end
4 Whitin model H COMBERS 6 head, Roth Aspirators
3 Newton Noble COMBS 32/36 circles, 12" collers
2 D&F Rub CONDENSERS 60" with 20" doffers
1 Chadwick Tape CONDENSER, double rub, 96 end, 42" dia. doffer
1 Tape CONDENSER, 60" single rub, 120 end
2 Soutex Tape CONDENSERS, 60" single rub, 108 ends
3 Whitin Tape CONDENSERS, 48" single rub, 72 ends
2 P&S Ceiling CONDENSERS, 36" x 18" dia. screens with Fans.
1 Hydrolit yarn CONDENSER, model AY-1 1
1 H&B COVERING MACHINE, 40 end, creel type wind-up
1 Reiner Magazine CREEL, double cone, 600 live ends
1 Warp Compressor Magazine CREEL, cone type, 410 live ends
1 Foster yarn DOUBLER, model 25, 80 spdl.
5 Prince Smith DRAW BOXES, 8 spdl., 10 spdl., 12 spdl.
6 S-L DRAWING FRAMES, metallic rolls, 12" coilers
1 Sargent Rag DUSTER, model #829, 12" blower
13 Harwood Bramwell 60" card FEEDS
12 Hunter FEEDERS for rag pickers
4 Soutex center draw Scotch Intermediate FEEDS
1 Harwood 40" Bramwell FEED
4 P&G GARNETS 4 cylinder 60" x 30" dia.
4 GILL BOXES single head, single can, Inter-secting
4 GILL BOXES, 2 spdl., 75% Inter-secting
2 P.S. & Stells GILL BOXES, double head Inter-secting
8 D&F MULES, 360 spdls. 2½" ga. 14" bob-bins
6 J&B MULES, 360 spdls. 2¼" ga. 9" traverse
2 S-L 1 process PICKERS
1 P&S PICKER, 36" model 174, 12 bar
1 D&F PICKER, 6 bar, 40"
1 Butterworth Rag PICKER, BB cyl. 18" wide
1 S-L Rag PICKER, BB cyl. 22" x 38" dia.
1 Schofield BB Rag PICKER, cyl. 20" x 30" dia.
4 Whitin QUILLERS, 378 spdls. 2½" ga.
1 Lindsey Hyde Skein REEL 72"
1 S-L ROVING FRAME, 132 spdls. 8x4, D2 long draft
4 H&S ring ROVERS, 8x4, 36 spdls.
2 S-L ring REDUCERS 9x5, 24 spdls.
1 Birch SPRAY, 100" wide, type 12A
1 Hunter SHREDDER, BB cyl. 48" x 20" dia.
1 Cameron model #5, SLITTER 62" motors, controls, etc.
2 Whitin SLUBBERS, 60 spdl. 12 x 8, 8½" ga.
2 S-L SLUBBERS, 8 x 4, 128 spdls. ea. 13 long draft
21 Whitin SPINNING FRAMES, 192 and 216 spdl. units, 1½"-1⅝" ring, BB cyls., tape drive
6 P.S. & Stells Cap SPINNING FRAMES, 200 spdls. ea., 3¼" ga.
3 Whitin SPINNING FRAMES, 66 spdls. ea., 4" ring.
3 Warp Compressor Co. Multiple SPOOLERS, 4 drum
2 Warp Compressor Co. SPOOLERS, 6 drum
1 Abbington card STRIPPER SYSTEM, used on 8 cards
1 Brownell TWISTER 64 flyer, 8" ring
6 Whitin TWISTERS, 180 spdls. ea. tape drive, BB cyls. 17⅛" rings
2 S-L TWISTERS, 200 spdls. ea. 2½" ring
1 Collins TWISTER, 200 spdl. tape drive, 2½" ring
2 Collins TWISTERS, 120 spdls. ea. tape drive, 4½" ring
1 B.C. TYING-IN MACHINE, LS model, B&C Knotters
1 B.C. WARPER, High Speed, model HW, 432 end creel
1 S-L WARPER, High Speed, 54", 30" beam head
1 Cocker tricot WARPER 45", for 21" bobbins
4 Barber-Coleman WARPERS HW model with creels and 140 spdl spoolers, type A
2 D&F WARP REELS, pin type, 92" beamers, take 30" flange
2 Foster WINDERS, model 102-C, 100 spdls. each, new—in original crates
1 Foster WINDER, model #102, 80 spdls. wood cones
4 Foster WINDERS, model #101, 100 spdls. wood cones
1 Foster WINDER, model #12, 40 spdl. tubes, spider swifts
1 Lasenby Jr. T. cop WINDER, 30 spdl. cop 12" long

ASSOCIATES, INC.,

BRONX 51, NEW YORK (Nr. 138th St.) Tel. MElrose 5-6741

Available...

4 Abbott WINDERS, 80 spdl., model #64, wood cones
3 Universal #90 WINDERS, 20 spdls.
1 Universal WINDER, Single spdl. making package 12" long
1 Universal ROTOCONER #40—80 spdl.
2 Universal WINDERS, model #160, cone, 12 spdl. ea., large pkgs.

LOOMS

76 Draper E 32"
82 Draper E 32"
189 Draper E 36"
16 Stafford 16 har. 40"
16 Stafford cam 43"
24 Draper K 40"
10 Draper E 40"
18 Draper modified D 40"
100 Draper E 40"
12 Draper modified D 52"
200 Draper E 52"
12 Draper E 54", 20 har. dobby
16 Draper D 62"
4 Draper O—2-84" and 2-96"
8 Draper L 99"
24 C&K auto. 4x1 box 42"
30 C&K auto. 2x1 box 43"
24 C&K auto. 2x1 45"
72 C&K S3 2x1 auto. 52"
144 C&K auto. 2x1 50"
90 C&K auto. 2x1 52"
73 C&K S5—auto. 2x1 54"
38 C&K auto. 2x1, 54"
18 C&K 4x4 box 62"
8 C&K 4x4 box 72"
12 C&K auto. 4x1 75"
14 C&K 4x4 box 76"
32 C&K auto. 4x1 82"
12 C&K auto. 4x1 82"
40 C&K auto. 2x1 82"
20 C&K 4x4 box 82"
12 C&K auto. 4x1, 92"
12 C&K auto. 4x1 box, 96"
10 C&K auto. 4x1 box, 110"

MISCELLANEOUS LOOMS

8 Lace Looms, double locker babbinet 204"—212"
10 Plauen Lace Looms, similar to Schiffli
2 C&K double shuttle plush, 66"
40 Velvet type double shuttle, 58"

REBUILT—WAREHOUSE STOCK

1 C&M BATCHER 66"
1 BEAMING HEAD for reel
1 Cleveland wet BRUSH 66"
350 M automatic BOBBINS, 8¾"
1 P&W BRUSH 2 roll 66"
1 Granger CALENDER 3 roll—43½"
1 CASHICO Tape CONDENSER, 112 ends 48"
1 S&F Ceiling CONDENSER
1 D&F rub CONDENSER, double bank 48"
1 P&W DEWING MACHINE 66"
1 P&W Combination DOUBLER and WINDER 56"
1 P&W Springfield Combination DOUBLER AND WINDER 66"
1 Windle DOUBLER AND WINDER 56"
1 P&W Springfield DOUBLER AND WINDER 66"
1 P&W model E DOUBLER AND WINDER 72"
1 Schofield DOUBLER AND WINDER 60"
1 S&U EXTRACTOR 48"
2 AMICO EXTRACTOR 72" V belt drive
1 Gessner Vacuum EXTRACTOR 66"
1 C&M Picker FEED 30"
1 Harwood Picker FEED 44"
1 C&M Atlas Picker FEED 54"
1 C&M Folder 40"
1 E&H FOLDER 46¾"
1 E&H FOLDER 47½"
1 Roy Traverse Card GRINDER 48"—60"
2 Roy Floor Card GRINDERS 60"
1 Roy Napper GRINDER 84"
1 D&F Napper GRINDER 90"
3 Bahnson HUMIDIFIERS 16" impeller
2 C&M INSPECTING MACHINES 64"
8 C&K LOOMS auto. 4x1 box 92"
3 C&K LOOMS 4x4 box 92"
1 Gerry BB LUMPER 48"
1 Starch MANGLE 2 roll 50"
3 P&W Measuring Machines 66"
1 Woonsocket NAPPER SA 12 rolls 72"
1 D&F NAPPER DA 24 roll 72"
1 Gessner NAPPER, DA 18 roll, 80"
2 D&F NAPPERS DA 24 roll, 80"
1 Woonsocket NAPPER BB DA, 24 roll 86"
1 D&F NAPPER DA 24 roll 86"
2 P&W Measuring PERCHES 50"—66"
3 Anderson power PERCHES 72" gear reducers
2 Werner Power PERCHES forward and reverse 93½"
1 Parkhurst Burr PICKER 24"
1 Multiplex Burr PICKER 36"
1 D&F Iron Fearnaught PICKER 48"x48"
2 C&M Fearnaught PICKERS 48"x48"
1 Gessner Rotary Steam PRESS 66"
1 Voelker Rotary Steam PRESS 84"
1 Nash L4 Vacuum PUMP
3 Van Vlaan. QUETSCHES 2 roll—50", 65", 68"
1 QUETSCH 3 roll—50"
1 REEL for loading and unloading Extractor
1 REEVES #3 enclosed drive, class E
1 Gessner SCUTCHER 80"
15 Birch-Dinsmore Rotary footpower SEWING MACHINES
8 C&M—Dinsmore Railway Portable SEWING MACHINES—50"—52"—56"—60"
1 P&W Auto. SHEAR 4 blade 60"
1 English type velvet SHEAR single blade 62"
1 C&M SHEAR single blade 66½"

Hudson, New York Warehouse

1 P&W SHEAR single blade 66½"
1 C&M SHEAR double blade 66"
3 P&W SHEARS, double blade model B 66½"
3 P&W SHEARS, double blade model A 66½"
1 C&M STEAMING, SHEARING AND BRUSHING MACHINE with 2 double blade 66½" shears
1 Hunter 2 roll SOAPER
5 Whitin SPINNING FRAMES 2½" ring, 180 spdls.
3 Whitin SPINNING FRAMES 2¾" ring, 180 spdls.
1 C&M TACKING MACHINE 90"
1 Llewelyn TRANSMISSION with 5 HP motor
1 Van Vlaan. TUBER 60"
1 D&F TWISTER 200 spdls. one side fancy
2 D&F WARP REELS 82" beamer, etc.
4 C&M type CO and CN WINDERS 50"—60"
1 Universal #90 WINDER
1 S-L Cone WINDER 16 spdls.
2 Campbell & Clute bottle WINDERS, 40 spdls. ea.

MILL UNITS

A. A Worsted mill 2000 spindles approximately on American System.
B. Haskell & Dawes Rope Machinery.
C. A Worsted spinning unit approximately 1700 spindles.
D. A Worsted cap spinning unit, approximately 1000 spindles with 18 automatic looms, etc.
E. A Cotton Spinning Unit approximately 10,500 spindles from 16-s to 40-s.

COTTON MACHINERY IN ONE MILL

2 H&B 40" combined self feeder and opener pickers.
2 H&B 40" FINISHER PICKERS.
4 H&B DRAWING FRAMES 4 deliveries each.
7 H&B DRAWING FRAMES, 8 deliveries each.
22 Whitin SPINNING FRAMES 256 spindles ea. 1¾" ring, band drive.
9 Mason SPINNING FRAMES 256 spindles each. 1-9/16" ring tape drive.
13 Mason SPINNING FRAMES, 272 spindles each. 1-9/16" ring tape drive.

CRESCENT OFFERS OUTSTANDING VALUES

CRES

OPENING & PICKING

4—Saco-Lowell #4 Bale Breakers.
3—Saco-Lowell Vertical Openers, removable grids, screen section.
1—Saco-Lowell 40" Single Process Picker, 3 beater, blending reserve, motor driven.
16—Saco-Lowell 40" Single Process Pickers, 3 beater, motor driven.

2—45" 2 beater One Process Pickers, Aldrich, rebuilt 1948.

3—Woonsocket Duplex Type Single Process 40" Pickers, 2 beater, motor driven.
3—Saco-Lowell 38½" F-2 Feeders.

CARDING

12—Mason 40" R.F. Cards, 12" coilers, 27" doffers.
11—Pettee 40" R.F. Cards, 12" coilers.
32—Platt 41" R.F. Cards, 12" coilers, 24" doffers.
15—Dobson & Barlow 41" R.F. Cards, 12" coilers, 24" and 26" doffers.
34—Dobson & Barlow 45" R.F. Cards, 12" coilers, 24" doffers.
8—Sets Whitin Model "E" 2 cylinder Waste Cards, 50", with tape condensers.
9—Sets Platt 2 cylinder Waste Cards, 50", with tape condensers.

COMBING

56—Whitin Model C Combers.
18—Hetherington (Nasmith) Combers.
18—Whitin Sliver Lap Machines, derby back, 20 ends.
4—Hetherington Sliver Lap Machines, plain back, 22 ends.
20—Whitin Ribbon Lap Machines, 4 heads.
1—Hetherington Ribbon Lap Machine, 6 heads.

DRAWING

160—Deliveries Saco-Lowell Drawing, 4, 5 and 6 delivery heads, 12" coilers.
288—Deliveries Whitin Drawing, 6 delivery heads, 11" and 12" coilers.
120—Deliveries H & B Drawing, 6 delivery heads, 10" and 12" coilers.

- COMPLETE UNIT -
WORSTED WEAVING,
DYEING & FINISHING
PLANT

72—Deliveries Lowell Drawing, rebuilt 1945, 6 delivery heads, 12" coilers.
24—Deliveries Woonsocket Drawing, 4 delivery heads, 10" and 12" coilers.
124—Deliveries Saco-Pettee Drawing, 4 and 5 delivery heads, 12" coilers.

ROVING

40—12 x 6 Slubbers, Whitin, H & B, Saco-Lowell, Saco-Pettee, 60, 64, 68, 72, 76, 80 spindles.
17—11 x 5½ Slubbers, Whitin, Woonsocket, 56, 60, 64 spindles.
2—9 x 4½ Slubbers, Saco-Lowell, 84 spindles.
13—9 x 4½ Whitin Slubbers, 90, 96, 108, 114, 126 spindles, Casablanca.
7—8 x 4 Slubbers, Whitin, H & B, 144, 160 spindles H & B high draft.
4—10 x 5 Whitin Intermediates, 96 spindles, Casablanca.
4—10 x 5 Woonsocket Intermediates, 120 spindles, Whitin Inter-draft.
29—10 x 5 Intermediates, Whitin, H & B, Saco-Lowell and Woonsocket, 84, 88, 96, 102, 108 spindles.
2—9 x 4½ Whitin Intermediates, 114 spindles, Whitin Inter-draft.
28—9 x 4½ Intermediates, Saco-Lowell, H & B, Saco-Pettee and Lowell, 76, 84, 96, 112 spindles.
40—8 x 4 Speeders, Saco-Lowell and Woonsocket, 136, 144, 160 spindles.
44—8 x 3½ Speeders, Saco-Lowell and Woonsocket, 160 spindles.
33—7 x 3½ Speeders, Whitin, Woonsocket, Saco-Pettee and Dobson & Barlow, 144, 160, 172, 216 spindles.
20—7 x 3 Speeders, Whitin, Woonsocket, 176, 184 spindles.

SPINNING

14—Whitin Tape Drive Spinning Frames, 3¼" gauge, 180 spindles, Casablanca long draft.
24—Whitin Tape Drive Spinning Frames, 3" gauge, 224 spindles, Whitin long draft, 1941.
56—Whitin Model B Tape Drive Spinning Frames, 2¾" gauge, 240 spindles.
4—Whitin Model B Tape Drive Spinning Frames, 3½" gauge, 216 spindles.
1—Whitin Model B Tape Drive Spinning Frame, 4" gauge, 144 spindles.
19—Whitin Tape Drive Spinning Frames, 3¼" gauge, 8—at 180 spindles, 11—at 252 spindles.
15—Whitin Tape Drive Spinning Frames, 2¾" gauge, 224 spindles.
56—H & B Band Drive Spinning Frames, 3½" gauge, 240 spindles.
32—H & B Band Drive Spinning Frames, 3" gauge, 204 spindles.
42—Whitin Band Drive Spinning Frames, 3" gauge, 240 spindles.
6—Whitin Band Drive Spinning Frames, 4" gauge, 240 spindles.
8—Whitin Band Drive Spinning Frames, 3" gauge, 256 spindles.

30—Whitin Tape Drive Spinning Frames, 3½" gauge, 276 spindles.
7—Whitin Tape Drive Spinning Frames, 4" gauge, 216 spindles.

SPOOLING, WARPING, WINDING, SLASHING

3—Universal #44 Roto Coners, paper cones, paper tubes, wood cones.
4—Foster Winders, Model 103, 100 spindles, wood cones.
5—Foster Winders, Model 102, 100 spindles, wood cones.
1—Foster Winder, Model 101, 100 spindles, wood cones.
3—Universal #40 Cone Winders, 100 spindles, wood cones.
8—Foster Model #30 Winders, 100 spindles, 2-tubes, 4 cones with wax attachments.
10—Universal "Leesona" Cone Winders, Giant Package, 12 heads each.
32—Universal #50 Winders, tubes or cones.
50—Universal #90 Winders, disc tensions, skeins, washboard tensions.
6—2 drum Cotton Slashers, Saco-Lowell, H & B, Lowell.
2—Ball Warpers.

LOOMS

600—Draper 40" Model "E" Looms, 45½" reed space, Lacey and roller tops, belt driven.
750—Draper 40" Model "K" Looms, 45½" reed space, Lacey and spring tops and dobbies, motor driven and belt driven.
140—Draper 42" Model "K" Looms, 47" reed space, Lacey tops and dobbies, motor driven.
250—Draper 44" Model "K" Looms, 49½" reed space, Lacey tops and dobbies, motor driven.
32—Draper 48" Model "E" Looms, 53½" reed space, roller tops, motor driven.
22—Draper 50" Model "E" Looms, 55½" reed space, roller tops, motor driven.
112—Draper 62" Model "K" Looms, 67½" reed space, roller tops and dobbies, motor driven.
34—Draper 62" Model "E" Looms, 67" reed space, roller tops, motor driven.
72—Draper Modified D Looms, 64" cloth, 69" reed space, Lacey tops and dobbies, motor driven.
62—Draper 65" Model "H" Looms, 71" reed space, Gem head, motor driven.
25—Draper 68" Modified D Looms, 73½" reed space, Gem head, motor driven.
5—Draper 68" Model "E" Looms, 73" reed space, Lacey tops, motor driven.
62—Draper 72" Modified D Looms, 79½" reed space, dobbies, motor driven.

ALL OFFERINGS SUBJECT TO PRIOR SALE

TEXTILE MACHINERY — MACHINE TOOLS — ELECTRICAL EQUIPMENT

SALES
PURCHASES

CRESCENT CORPORATION

EDWARD J. ZISKIND, PRESIDENT
ABRAHAM ZISKIND, TREASURER

CRESCENT — EXPERIENCE — SPECIALIZED SERVICE — LEADERSHIP

LIQUIDATIONS
APPRAISALS

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EXPORT OFFICE: 1450 BROADWAY, NEW YORK 18, N. Y. • • • • TELEPHONE LAckawanna 4-0700
SOUTHERN OFFICE AND WAREHOUSE: SPARTANBURG, S. C. . . . . PHONE 5624

CENT

EXCELLENT EQUIPMENT IMMEDIATE DELIVERY

28—Stafford Automatic Looms, 76" reed space, dobbies, motor driven.
80—C & K 2x1 box Automatic Looms, 42" cloth, 48" between swords, dobbies and multipliers, belt driven.
144—C & K "Cotton King" 4x1 box Automatic Looms, 42" cloth, 48" between swords, dobbies and multipliers, motor driven.
63—C & K 4x1 box Automatic Looms, 48½" between swords, dobbies, motor driven.
44—C & K 4x1 box Automatic Looms, 77½" cloth, 82" between swords, side cams, motor driven.
144—C & K 4x1 box Automatic Looms, 85" between swords., Jacquard heads, and side cams, motor driven.
38—C & K 4x1 box Automatic Looms, 87½" cloth, 92" between swords, side cams, motor driven.
115—C & K 4x1 box Automatic Looms, 92" between swords, Jacquard heads, and side cams, motor driven.
6—C & K 4x1 box Automatic Looms, 112" between swords, Jacquard heads, and side cams, motor driven.

15—C & K Axminster Rug Looms, 3/4, 4/4, 8/4, 10/4, 11/4, complete with overhead conveyor chain.

NAPPING

13—Davis & Furber 80" Nappers, 36 rolls, double acting.
10—Franz Muller 80" Nappers, 36 rolls, double acting.
2—Tomlinson 80" Nappers, 30 rolls, double acting.
1—Davis & Furber 84" Napper, 36 rolls, double acting.
5—Woonsocket 105" Nappers, 36 rolls, double acting.
1—Woonsocket 95" Nappers, 36 rolls, double acting.

FINISHING

1—100" Padder, 2 rubber rolls, screw and weight set.
1—98" Padder, 2 rubber rolls, screw and weight set.
1—90" *NEW* BUTTERWORTH MICRO SET PADDER, 2 rubber rolls.
1—60" Morrison Padder, 2 rubber rolls, antifriction bearings, stainless steel pan, weight set, *reconditioned.*
1—60" Textile Chemic Padder, 3 rubber rolls, screw set, *reconditioned.*
1—86" Stainless Steel Dye Jigg, stainless steel beam rolls.
2—80" Copper Lined Dye Jiggs.
1—58" Stainless Steel Lined Dye Jigg, *reconditioned*, motor driven.
4—50" Stainless Steel Dye Jiggs, individually motor driven, *reconditioned.*

1—80' Butterworth Swing Tenter Frame, opens to 50", with Palmerette.
1—2-ton Open Kier, pump and heater.
1—Kier Piler.
1—64" Scutcher, single beater, *reconditioned.*
4—Swing Folders, ceiling type, 50", 60", 72".
1—*NEW* NARROW FABRIC CALENDER consisting of: 6—30" face copper cans, ball bearings, Johnson joints, chain drive, 3 roll quetch.
1—19 can Butterworth Dryer, *stainless* steel, 130" face, ball bearings, Johnson joints.
1—72" totally enclosed Steam Jacketed Ageing Box, 19 chrome plated rolls, *new.*
2—Single Roll Batchers, rack gear tension, 1—100", 1—48".
2—Curtis & Marble 2 roll Batchers with rack gear tensions, 1—72", 1—82".
1—90" Curtis & Marble Single Roll Batcher, rack gear tension, yardage clock.
1—47½" Simpson Batcher, complete with cutting off knife.

4—Curtis & Marble Inspecting Machines, rolling-up heads, reverse motions, 2—48", 1—72", 1—96".
2—48" Hermes Doubling and Rolling Machines, motor driven, *excellent condition.*
4—42" Parks & Woolson Doubling and Rolling Machines.
1—54" Curtis & Marble Sanding and Brushing Machine, 4 sand rolls, 2 napping rolls, 2 brush rolls.
1—42" Curtis & Marble Brushing Machine, 6 rotary brushes.
1—Atlas Weatherometer, Serial WO311, Type BWMC, 30 sample capacity.
1—48" Fletcher Extractor, Type EU, copper basket, motor driven by 7½ H.P. vertical motor.
2—Sets Foxwell Air Guiders, 1—48", 1—60", *reconditioned.*
1—60 Arm Buhlman Skein Dyeing Machine, porcelain arms, motor driven.
1—6 box Chain Warp Dyeing Machine or Yarn Mercerizer, 6 sets nips, rubber rolls 16" face, motor driven.

WE BUILD DRY CANS—TO YOUR SPECIFICATIONS
STAINLESS STEEL OR COPPER
GEAR OR CHAIN & SPROCKET

WOOLEN & WORSTED

5—Sets Dobson & Barlow 54" x 50", 2 cylinder Worsted Cards, 18" coilers.
5—Sets Platt 54" x 50", 2 cylinder Worsted Cards, 18" coilers.
2—Furbush 54" x 54" single cylinder Worsted Cards, 18" coilers.
2—Noble Combs.
1—Set Platt 60" x 48" 3 cylinder Wool Card, tape condenser.
3—Sets Whitin 50" x 48" 2 cylinder Wool Roller Cards, with tape condensers.
2—Sets Davis & Furber 48" x 48" 2 cylinder Wool Roller Cards, metallic breast and tape condenser.
8—Sets Platt 51" x 51" 2 cylinder Wool Roller Cards, metallic breast and tape condensers.

2—Whitin Wool Ring Spinning Frames, Tape Drive, 6½" gauge, 5" ring, 120 spindles.

11—Whitin Wool Ring Spinning Frames, Tape Drive, Model A, Pease type, 4½" gauge, 144 spindles.

2—Davis & Furber Wool Ring Spinning Frames, Tape Drive, 6½" gauge, 5" ring, 144 spindles, 1941.

MISCELLANEOUS

3—Barber Colman Portable Warp Tying-in Machines, Model LC.
1—Barber Colman Portable Warp Tying-in Machine, Model LS.
2—Barber Colman Stationary Warp Tying-in Machines, Size 4-E, #311 and #63.

1—Scott Cloth/Yarn Tester, Model X-3, Serial #B-13549, double scale gauge, top 50, bottom 25, with ¼ H.P. motor, 115 volts.

6—200 KVA G. E. Transformers, primary voltage 550, secondary 110/220.
1—100 KW G. E. Motor Generator Set, 2200/3/60 AC, 240 volts DC.

- COMPLETE UNIT - PLANT FOR DYEING & FINISHING - CANVAS & DUCKS

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FROM A BOBBIN TO A COMPLETE MILL

• *Partial Machinery List* •

15 S-L 40" Cards 12" Coilers.
8 Woonsocket 40" Cards 12" Coilers.
1 Kitson Shoddy Picker 38" dia. x 22" face ball bearing cyl. and blower—V belt drive and motor.
1 Schofield Shoddy Picker 29" dia. x 20" face ball bearing cyl. V belt drive and motor.
1 D&F Picker 24" dia. x 30" face cylinder 12 bars 24 teeth per bar, V belt drive and motor.
36 del. Whitin Drawing 12" coilers.
12 Whitin 244 spdle. Twisters 2" ring, 3" ga. arr. for motor drive, no motors available.
1 Allen 36" High Speed Ball Warper.
1 Cocker High Speed Drum Warper Head.
2 12 spdle. Foster Cone Winders, mod. #75.
3 Foster Thread Singers, 54" width, 4 burners.
1 C&M 58" Cloth Folder 1 yd. fold, drop table.
400 Draper 42" Looms, model X
78 Draper 44" Looms, model XK
98 Draper 50" Looms, model XK
2 48" Tolhurst Copper Basket Extractors, over head drive.
8 C&K 82" Worsted Looms with Steuer auto. magazines.
6 Draper D Looms 58" r.s. with 600 hook Jacquard heads, motor drive.
10 Stafford 60" shuttle change looms 2 and 3 har. cams, motor drive.
1 Ingersol-Rand Compressor, type 30, mod. 66DM, size 6 x 6 x 4.
1 Franklin pkg. Dye Machine 600 pkgs. on springs, tanks, pump, chain hoist and controls.
1 Franklin pkg. Dye Machine 700 pkgs. on springs, pump, etc.
1 Giles 65 stick Dye Machine, hoist type, 600 lbs. 84" skeins, motor drive.
138 Wood Box trucks (slatted) 32 x 14 x 25".
1 H & B Hopper Feeder 38" low back.
1 Kitson Feeder 34" high back.
1 Saco-Lowell Condenser 36" x 20".
1 Prince-Smith Double-ball head gill box 6½", 2" front row, 7/16" tailers, 18 pins per inch.
400 10" roving cans.
7 Whitin spinning frames, 3" gauge band drive, 204 spindles each 1⅞" ring belt driven.
3 Universal #40 winders, 100 spindles each to cork cone, 550-volt motors.
New 12" x 38" fiber roving cans, carload or less carload lot.

3,360 spindle worsted yarn Spinning Mill

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We rebuild or furnish new or used wood equipment.

For instance—if your Roving Bobbins are oil-soaked and rough, we will quickly extract the oil and give them a new finish, keeping them in production.

We will repair, refinish and re-enamel your bobbins like new. In addition, we offer the largest and most complete stock of bobbins, spools and skewers.

Bay State Emergency work in modern repair shops is your assurance of continuous production.

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for your idle equipment, or for equipment you may want to replace. We take *resale* problems off your hands and quickly convert your "liabilities" into "assets" where at all possible.

(2) You get DELIVERIES

instead of promises—when you buy equipment from "TA". Today production won't wait—and you can't afford to wait for new machines when "TA" may have what you want now IN STOCK.

(3) You get special DESIGN

not infrequently some small changes in a standard machine can be worked out to increase production efficiency or cut costs. This is where our Engineers can really help you. The best way is to ask . . . let us show you what we can do.

(4) We quickly LIQUIDATE

where liquidation will be best. Our standing in the field and our wide experience means that you realize the *most* from a "TA" liquidation, in the fastest possible time. Consultation without obligation. Write or wire us and our man will call.

• *A few typical stock items*

1—90' x 54" Butterworth Swing Tenter, top opening stainless steel chain

1—40' x 54" Textile Finishing Machinery Co. Straight Tenter Frame, top opening #6 Winser & Jerauld stainless steel chain, excellent condition

1—50' x 59" wide Curing Oven, ceiling type, complete with Aero-Fin heaters for temperature up to 500 degrees, equipped with Chicago vaporiter system for temperature up to 700 degrees

1—Riggs & Lombard Continuous or progressive 8-Beam Jigg, 45" wide with heavy squeezer

4—50" completely enclosed tensionless Van Vlaanderen, all stainless steel Dye Jiggs, A.C. or D.C. Motors
Also, stainless steel lined Dye Jiggs from 45" up to 60" wide

Copper or Copper-tinned Drying Cans, from 40" to 106" wide, single or in sets up to 48 Cans, with vertical or horizontal stands, bucket or siphon type

Dye Padders—from 40" to 120" wide

1—Rice, Barton & Fales 2 color Print Machine, 60" wide

1—Curtis & Marble 50" Flat Folder

Scutchers from 50" to 72"

1—Minnich Baling Press, motor drive, for waste or cloth, platform 60" x 36"

1—Copper Roll Jack, for rolls up to 60" wide

1—150 gallon Copper Jacketed Tilting Color Kettle

Examining and Beaming Machines, from 45" to 60" wide

1—Herman Examining and Tubing Machine, 45" wide, variable speed A.C., 110 volt, single phase motor

1—Totally enclosed Reeves Drive, horizontal, size 3, ball bearings

1—Open Reeves Drive #1, ball bearings, also 0, 00 and 000

1—U. S. Colloidal Mill

1—Perkins Bin Piler, 65" wide

1—50" Morrison 3 roll Quetch

1—Riggs & Lombard Hayes Slack Washer, 3 compartments, oval reel

• *More typical stock items* •

1—60" Embossing Heavy Duty Calendar, cotton roll 24" diameter, Lavant design, herringbone gears

1—2 Roll, 48' Schreiner Calender

1—5 Roll, 50" Plain Calender

1—11 Roll Weisbach, 50" Calender, hydraulic, 150 ton pressure, with chasing arrangement and variable speed motor

Spare Pad Rubber or Brass Rolls, from 40" to 120"

Calender Rolls, husk, combination paper or cotton Rolls, from 40" to 76"

4—5 Ton Allen Kiers with pumps and heaters, large center opening

6—2 Roll Bleach House Squeezers, rubber rolls 18"x18"

1—60" McCreary Napping Machine, 10 roll, ball bearing

1—Steel Tank, 1250 gallon capacity, with attached agitator

1—50' Andrews & Goodrich Tenter Frame Housing (new) with Aero-Fin heaters and blowers

1—46" Parks & Woolson Double and Rolling Machine

Dinsmore Foot Power Sewing Machines

Electric Motors, all sizes, A.C. or D.C., variable speed, B.T.A., from ¼ h.p. to 100 h.p.

We make the best rubber expander on the market. Ask us about the "Bulldog Expander," or anything else *you need* for prompt delivery.

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MACHINERY LIQUIDATING COMPANY

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READY FOR DELIVERY

ACT NOW—CERTIFIED VALUES

1—58" 2-cylinder Back Filling Machine
1—4 spindle Sargent Baller
1—47" 2-roll Batcher, with cut-off knives
1—58" Batcher
1—47" 2-roll Batcher, with cut-off knives
1—Blower and Unit Heater motor driven
2—#0 Sturtevant Paddle Type Blowers
1—36" Saco Lowell Bale Breaker
1—50" Van Vlaanderen Button Breaker
1—52" 2-cylinder Bristle Brusher
1—72" 2-cylinder Curtis & Marble Brushing Machine
1—72" 2-roll Hydraulic Schreiner Calender, complete with pump, accumulator and motor
1—43" Kleinewefers 3-roll Calender
1—60" 4-roll Calender, 3 husk and one brass covered rolls
1—54" x 60" Davis & Furbur 2-cylinder Sheddy Card
2—48"x60" D&F 3-cylinder all iron Cards
6—4-head Whitin D-2 Combers
1 Ribbon Lapper
1 Sliver Lapper
12—Whitin D-2 Combers 8 heads
2 Whitin Sliver Lappers
2 Whitin Ribbon Lappers
2—4-head Whitin Ribbon Laps
2—Whitin 4-head Ribbon Lappers
1—72" Hartman 4 bank Single Rub Tape Condenser
1—Saco Lowell Condenser
1—36" Chenille Cutting Machine with exhaust blower, dust collector, motorized (extra blade)
5—Curtis & Marble Reversible Flock Cutters
2—Stokes Fiber Cutters
1—65" Curtis & Marble Dewing Machine
1—40" P&W Doubling, Measuring and Boarding Machine
4—60 sp. Foster Model 29 Doublers, motor driven
12—Deliveries Whitin Drawing
16—Deliveries Saco Lowell Drawing
1—Set of 7—44" tinned iron Dry Cans, with vertical frame and ceiling folder
1—Set of 9—50" tinned iron Dry Cans, with horizontal frame, Mycock expander, ceiling folder.
1—Set of 38—100" Copper Dry Cans, motorized with motor and Reeves drive
1—Hurricane Class D, 3 fan, six section Loop Dryer
2—Hurricane Dryers to dry spring dyed packages of yarn
1—90 yd., 66" wire Heathcote Return Tenter Dryer
1—Philo. Pin Tenter Dryer, 44" to 71" opening
2—36" Gerry Waste Dusters
2—48" Van Vlaanderen S/S lined Dye Jiggers
3—50½" Worner S/S lined Dye Jiggers
2—50-60 lb. Smith Drum Rotary Dyeing Machines
2—500 lb. Hussong copper basket Raw Stock Dyeing Machines with air hoist
1—62 arm Twin Type Hydraulic (15 units) Buhlman Dyeing Machine Complete
1—King & Gerber Embosser
11—Tolhurst & Fletcher Extractors, 16", 20", 32", 40", 42", 48", 60"
22—60" Bramwell Card Feeds
2—40" C&M Folders
1—Rodney Hunt M-3 2-string Fulling Mill
4—3 head Prince Smith open type Balling Head Gill Boxes
2—60" Hunter 3-cylinder Garnetts
2—60" Hunter 29" x 60" 3-cyl. Double Doffer Garnetts, with P&S Cone Willow
10—44½" to 53" Grinders
1—72" Furbush Card Grinder with stand
4—Foxwell Cloth Guiders
1—60" C&M Inspecting Tables
30—43" R.S. C&K 2x1 Automatic Looms, motor driven
16—48" C&K 2x1 Auto. Looms, 12 Harness, Motor driven
30—52" R.S. C&K 2x1 Silk Looms, 16 harness, motor driven
100—48", 50", 52" R.S. C&K Looms, 20 harness, Motor driven
72—52" R.S. C&K S-3 2x1 Auto. Shuttle Changing Looms
3—60" R.S. C&K 4x4 Box Looms with Jacquards, Motor dr.
8—60" R.S. C&K 2x1 Auto. Looms, 8 harness Cam, motor driven
36—52" C&K 4x1 Looms, 25 harness, Motor dr.
46—62" C&K 2x1 Auto. Looms, 8 harness, intermediate head motor driven
8—100" C&K 2x2 Box Looms
6—110" C&K 4x4 Box Looms
4—110" C&K 4x1 Veribest Looms
45—37" R.S. Draper Mod. E Looms, Lacey Tops, belt dr.
43—42½" R.S. Draper Mod. E Looms, 4 harness spring tops
48—45" Draper Modified D Looms, 16 harness
2—45½" Draper Model E Looms with 2 harness roller tops
200—45½" R.S. Draper Model E Looms
150—56½" R.S. Draper Model E Looms; with roller tops, motor driven 12 harness dobbies, all motor driven
10—59½" R.S. Draper Model E & D Looms, roller tops
30—62" R.S. Draper Modified D 2x1 Looms, 18 Harness, Motor drive
16—43" R.S. Stafford Automatic 16 harness dobby Looms, motorized
16—43" R.S. Stafford Automatic Cam Looms, motorized
123—69" R.S. Stafford Shuttle Change Dobby Looms
1—30" Schofield Lumper
2—42 x 44" Starch Mangle with tank
1—50" x 25" P&W AWC Measuring Machine
2—240 spindle J&B 1-7/8" gauge Mules
2—240 spindle J&B 2" gauge Mules
6—312 spindle J&B 2-1/8" gauge Mules
1—360 spindle D&F 1942 2½" gauge Giant Package Mule
5—60", 72", 90" Single and Double Acting Nappers
1—New 66" 36-roll Double Acting Napper
1—Dobson & Barlow Vertical Opener with Kitson Hopper Feeder, with extended apron
1—60" x 30" Mezzara Wool Opener
7—45", 50", 75" two and three roll Padders
1—18" Butterworth Rag Picker S/B, motor driven
1—53" James Smith Mixing Picker, motor driven
1—36" Sargent Burr Picker
1—40" Saco Lowell 2-beater Breaker Picker
1—48" Sargent Duplex Burr Picker
1—60" C&M "Parkhurst" Double Burr Cyl. Picker
2—Bywater Polishing Machines
1—Bushnell Cloth Press
4—Skein Package Presses
1—52" Gessner Single Bed Apron Cloth Press
4—65" Gessner and Voelker Double Bed Cloth Presses
3—42" Textile 4-color Printing Machines
1—43x54" Rice, Barton & Fales 5-color Printing Machine
4—50 spindle Lindsay-Hyde Adjustable Skein Reels
4—60 spindle Saco Lowell 12x6 Roving Frames
1—27" x 48" Sargent Scouring Bowl
2—60" Parks & Woolson Single Blade Shears (one 6 in tooth, one smooth tooth)
1—62" Shear with V-belt motor drive
1—(Approx.) 66½" Parks & Woolson Double Blade Shears
1—New 66½" C&M Type W Shear
1—78" Curtis & Marble Double Blade Shear
1—80½" Parks & Woolson Single Blade Shear
1—88" Parks & Woolson Model A Double Blade Shear
1—62" Textile 4-burner Gas Singer, 1925
1—72" Birch Bros. 4-burner Singeing Machine, equipped with Roto-Clone, 1949
1—Saco Lowell 1924, 5" and 7" cylinder Stasher
1—67½" Cotton Stasher, 5" and 7" cylinders, equipped with Brown Controls
1—42" 29 knife Ireland Slitting Machine
2—60 spindle Whitin 12x6 Slubbers
2—72 spindle Saco Lowell 11x5½ Slubbers
2—180 spindle Whitin Model A 3" ring Spinning Frames
2—120 spindle D&F Model E, 6½" Gap Spinning Frames
1—Worcester Warp Compressor Spooler
3—140 sp. Barber Colman Automatic Spoolers, Model KK, 1928
1—54" W&J 40" Tenter Frame, with brass top opening clips
1—60" Butterworth Clip Tenter Frame with top opening brass clips
1—78" Textile Finish, Machine Co. 142" wide Pin Tenter and Drying Frame
1—70" King & Gerber Tubing Machine
1—96" W&J 40" Tenter Frame with brass top opening clips
1—80 spindle Hopedale 4½" ring band driven Twister
1—144 spindle Whitin 4½" gauge, 3½" ring, band driven Twister
1—144 spindle H&B Twister, 6" gauge, 4½" ring, V-Belt drive.
1—180 spindle Draper 3½" gauge, 2¼" ring, band driven Twisters
1—220 spindle, 2½" ring, 3" gauge H&B band driven Twister
1—160 sp. Ceiling Twister, 3½" R. 3" Ga., 8" traverse
1—280 spindle Paine & Jenks 2" ring Twisters
1—High Speed Barber Colman Warper Model HW, 1928
1—64" Entwistle High Speed Warper with 720 end creel
1—62", 82", 96" Davis & Furber Warper, complete with compressor
2—8-string Hemmer Wool Washers
24—20 spindle Universal 290 Winders
1—30 spindle Lazenby Jr. T model Cop Winder
1—40 spindle Foster Model 12 Tube Winder with skein attachments
2—48 spindle Easton & Burnham skein to spool Winders, motor driven
1—80 spindle Foster #102 Winder, 1945-8 model
17—80 spindle Sipp Skein Winders
1—80 spindle Foster skein to cone Winder
1—100 spindle Foster Model 12 cone Winder
7—100 spindle Foster Model 21-A Tube Winders
2—80 sp. Abbott Auto. Traveling Cone Winders, Model 84, motor drives
2—120 sp. Universal Roto-Conors, 1942
2—Saco Lowell Warpers with Universal magazine cone creels

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COMPLETE NARROW FABRIC WEAVING MILL WITH 8 LOOMS. WINDER, QUILLER, WARPERS AND ALL SUPPLIES
COMPLETE DRAPERY WEAVING MILL WITH 30 LOOMS.
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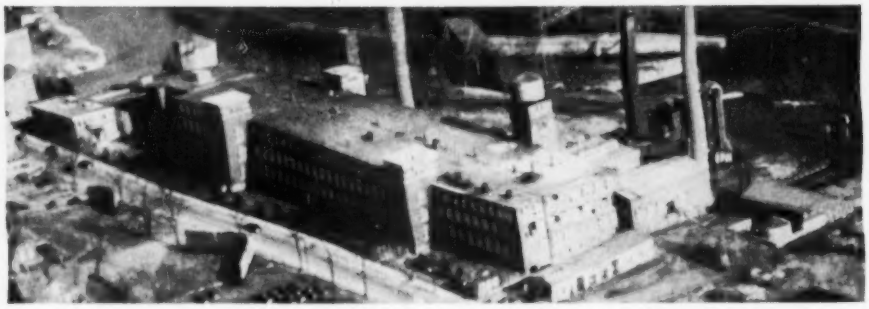

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MAIN BUILDING
3 Story Brick, 468' long x 91' wide. Heavy Mill Construction. 3 OTIS FREIGHT ELEVATORS.

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Complete 300 Ton Refrigeration Plant with Two 150-Ton Motor Driven Compressors.

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A Modern Separate Unit Connected to Main Plant by Passageways.

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SQUARE FEET FLOOR SPACE

ALL SPRINKLERED
7½ ACRES
LOCATED AT
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Here's the answer to your plant space and location problems. This big modern Plant, centrally located, makes possible overnight deliveries to New York, and is within a few hours' trucking of Boston, Worcester and Providence. Adaptable to any type production or storage.

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BOILER PLANT
Two 500 H.P. Heine Boilers arranged for Oil & Pulverized Coal Firing. 250 lbs. Pressure.

STORAGE SPACE
FOR FUEL, OIL & COAL. Yard space includes 72,000 Gal. Fuel Oil storage tank & Coal unloading & storage facilities. One 250 Ton Coal Silo.

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Abundance of Water at No Cost.

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Ample facilities for loading, unloading in all buildings, adjacent to elevators.

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Entire plant fenced by 7' cyclone wire fence. Complete fire loop around property.

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LIQUIDATED IN	MASSACHUSETTS	ARKWRIGHT COTTON MILLS, 53,000 SPINDLES, 1,200 LOOMS
LIQUIDATED IN	NEW JERSEY	RAYON PRINT SHOP, 10 PRINT MACHINES

Our nation's demand of all production facilities becomes greater each day and REPUBLIC will help you prepare to meet this need. We offer confidential cooperation and can make available to you textile properties to increase your production.

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EXECUTIVE TRAINEE
Robert A. McKittrick. Age 23. Graduate, Business Administration Engineering, Massachusetts Institute of Technology.

McKITTRICK CO. OFFERS A VARIETY OF SERVICES INCLUDING

1—OUTRIGHT PURCHASE—for cash—anything from a bobbin to your complete plant.

2—LIQUIDATION SERVICES—at private sale of anything from a bobbin to complete plants.

3—APPRAISAL SERVICES—for insurance purposes, tax cases, quick sale, orderly liquidation, estate settlements, auction estimates, or any other purpose, — *"specialists in woolen and worsted"*.

4—PURCHASING SERVICE for your account at auctions on a commission basis.

5—INSPECTION SERVICE of machinery offered to you by others.

6—WAREHOUSES — maintained for your convenience in Lowell and Fitchburg, Mass.

7—RIGGING and SHIPPING SERVICE — On all items in warehouses or purchased through us. This means you have to deal with only one account. McKittrick Co. operate their own fleet of trucks.

8—EXPORT PACKING and SHIPPING Service—special crating room and loading dock at Lowell.

9—GUARANTEE: All descriptions and representations by McKittrick Co. are backed by their knowledge, integrity and financial responsibility.

10—WORSTED spare parts department for Bradford type machinery.

11—WORSTED TOP ROLL COVERING—also roll covers and roll covering supplies.

12—MILL SUPPLIES.

13—MILL HARDWARE DIVISION (operating McKittrick Hardware Co. and J. C. Bennett Hardware Co.)

14—ELECTRICAL—a complete Industrial Electrical Engineering and Equipment Service through White Electric Motors in Lowell (owned by McKittrick's).

15—SPECIALISTS—If it is used in a woolen or worsted mill, we handle it.

16—COTTON—RAYON—JUTE MACHINERY. Besides specializing in woolen and worsted, McKittrick handles these and other types of textile machinery and equipment.

17—COMMISSION WOOL SPINNING. 8-set mill in Fitchburg, Mass.

18—COMMISSION WORSTED SPINNING—BRADFORD RING SPINNING. Noble Combing. Fitchburg, Mass.

19—REFERENCES: Financial: Union National Bank of Lowell, Lowell, Mass.

FRANK G. W. McKITTRICK CO.

Est. 1922 — 78 FLETCHER STREET, LOWELL, MASSACHUSETTS — Inc. 1935

MACHINERY SUPPLIES EQUIPMENT REAL ESTATE

MONEY MAKING MACHINES *at* MONEY SAVING PRICES!!

1—set 14 Stainless Steel Dry Cans, 50" W, horizontal, motor and reeves.

1—set 21 Copper Dry Cans, 80" W, all complete.

1—60' x 66" Tenter Frame, S.S. Clips, motor and drive.

1—40' x 80" Tenter Frame, S.S. Clips, motor and drive.

1—30' x 60" Tenter Frame, s.s. top opening clips, motor and reeves drive.

1—Palmer 66" x 60" main cyl., complete with Quetch, blanket and motor.

1—Palmer 54" x 60" main cyl., complete with blanket and motor.

1—60" Calender, 3 roll, all ball bearing, 10 ton pneumatic pressure.

1—50" Button Breaker, Ball Bearing rolls.

8—50"-72" Stainless Steel Dye Jiggs, enclosed gears, motor driven.

1—50" Hydraulic Padder, 2 rubber rolls, all complete.

1—5 color 60" Print Machine, motor and drive.

350—Copper Print Rolls.

1—New 60" Polishing Lathe.

1—Ager, 60" x 18', complete.

2—50" Semi-Decators, pump and motors.

1—Print Machine, 1 color 50", complete, extra parts.

1—8 fan Loop Dryer, revolving poles.

1—4 fan Loop Dryer, revolving poles.

1—5 tier Pin Dryer, auto opening to 72", 60' long.

2—Singers, 50" and 66", blowers and motors.

1—60" rubber lined extractor, direct motor drive.

1—60" Stainless Steel basket Extractor, 1949 model.

1—66" Boil off and setting unit, s.s. drums and s.s. tank.

2—36"-42" Knit goods calenders.

1—80" finishing Calender, 3 rolls, Ball Bearing, Vari speed motor.

1—54"—2 roll silk Embossing Calender.

2—Complete Dye Houses, now running. One equipped for box dyeing and one for jigg dyeing. Send for details.

Also: Complete cotton spinning mills, weaving mills, woolen mills.

6—4' to 12' Stainless Steel Dye Boxes, motor and drive.

1—6 color 46" Print Machine, motor and drive.

6—BTS Motors, 25 HP-40 HP.

2—60" Quetches, 2 rubber rolls, motor driven.

1—50" Mercerizer, with Frame, Washer, Padder, etc.

1—Kenyon Pin Dryer, all complete.

1—Padder, 2—72" rubber rolls, pneumatic press, all complete.

2—50" and 60" Simpson Batchers, with cut-off attachment.

1—90' x 50" Tenter Frame, brass clips, reeves and motor.

1—60" x 24" Duplex Sanforizer.

1—60" Vacuum Extractor, with pump and motor.

1—56", 7 bowl Calender, cotton and Steel Roll, all complete.

1—3 roll 50" hydraulic Calender, 60 ton.

Partial listing — send for details.

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. . WE OWN AND OFFER FOR SALE . .

SPECIALISTS IN REBUILDING & RECONDITIONING LOOMS

24—60" Reedspace C&K 4x1 Looms, 20 Harness Dobby, Side Center Filling Motion, Plain Bearing, 2 shift pick counters, individually motor driven.

C&K 2x1 54" Reedspace COMPLETELY REBUILT LOOMS, Roller Bearing, shock absorber, heavy bar, individually motor driven, 20 harness dobby.

13—C&K 2x1 50" Reedspace oversize shuttle box, individually motor driven, 20 hook double index dobbys, 2 shift pick clocks, 1½ Beams per loom.

28—C&K 2x1 52" Reedspace, oversize shuttle box, individually motor driven, 20 hook double index dobbys, 2 shift pick clocks, 1½ Beams per loom.

5—C&K Heavy Wool type 2x2 Looms, 66" between layswords with 1½" x2¼" shuttle boxes, individually motor driven and extended bottom shaft to operate Jacquard Machine.

38—1¼ HP 550 Volt, 60 cycle Motors.

1—30 Spindle Lazenby Model D-Jr. Cop Winder. Machine was installed in 1945. It is built with Roller Trumpets. Spindles to wind paper ribbon to cops 1½" dia. x 10".

C&K 4x1, 54" Reedspace COMPLETELY REBUILT LOOMS, with multiplier, roller bearing, shock absorber, heavy bar, individually motor driven, 20 harness dobby.

5—54" Reedspace C&K 4x4 Looms with 1⅛" shuttle box, 20 harness dobby, double index dobby, single multiplier, plain bearings, 2 shift pick counter, motor driven.

24—60" Reedspace C&K Plain looms, 20 harness double index dobby, plain bearings, 2 shift pick counters, motor driven.

20—#90 Universal Quillers and Coppers with and without bunchbuilders, excellent condition.

2—Measuring Machines 40" and 58" goods.

8 Yard Sipp Warpers 83" and 72".

Skein Winders, 60, 80, 100 Spindles.

⅓ H.P., ½ H.P., ¾ H.P., 1 H.P. New and Used Textile Motors.

WANTED

1—Over end Creel with Electric Warp Stop Motion for 3 to 4 lb. Cones.
2—Horizontal Warpers 72" and 84".
6—C&K W-3 Automatic Looms 4x1—4x4, 78"—92" Reedspace with Dobby.
20—Draper Looms 44", dobby and cam.
10—72" Draper Looms.
1—40 Spindle Foster Winder, one side for tubes, other side for Cones.
1—5-7 Can Johnson Sizer.

COMPLETE PLANTS AND REAL ESTATE BOUGHT, LIQUIDATED AND APPRAISED

Paterson Textile Machinery Exchange
INC.
formerly the Paterson Silk Machinery Exchange, Inc.
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FOR SALE

Universal #50 & #90 Winders Rebuilt to your specifications

Also:

2—Universal #50 Multiple end Winders—New
54—N.E. Butt 24 Carrier Braiders
Foster model #12 Winders
Foster model # 75 Winders
Luther Thread Dressers

Your inquiries and offering invited

GAINES TEXTILE MACHINERY CO. INC.
Dealers in Rebuilt and Guaranteed Yarn Winding and Spinning Machinery
141-45 West 17th Street New York 11, N. Y.

STA Meetings

(*Continued from page 151*)

out of line. Most of these mills agreed that if they emphasized waste reduction too much, the seconds or bad work increased.

One mill had a solution for reducing waste and keeping up quality. This mill keeps records of waste removed each shift from each machine, and plots that waste against quality. They try to keep both the waste and quality on an even keel.

Yarn defects with which spooler and warper men are most concerned may be broken down into three major classifications, namely gouts, loose lint buttons, and spinner piece-ups.

Gouts are caused to a large degree by clearer waste picked up in drawing, roving, or spinning. These gouts are hard for the yarn cleaners to remove because they consist mostly of fuzz, either spun in or wrapped around the yarn, and have no body.

Gouts can be eliminated to a large degree by frequent and careful cleaning of the clearers.

Lint buttons are formed in a great many instances by the snick plates skinning gouts at the spooler. These lint buttons may be stopped or passed on to the cheese.

A decided tendency was noted for lint buttons to be caused by clearer waste picked up from flat clearers in spinning. It was felt that flat clearers keep the rolls cleaner, but that they must be cleaned frequently enough to prevent the waste from being pulled into the stock.

Bad spinner piece-ups account for a large number of defects. On the newer types of spinning frames, it was noted that the top rolls overhang the bottom rolls more; and that either unconsciously or otherwise, spinners tend to stop the scavenger rolls momentarily when they piece up.

Some mills pick spinning clearers once each shift, and some pick twice each shift. Generally, you need to pick good, hard cotton only once, but cotton with a good bit of fly waste in it needs to be picked twice.

Back clearers on spinning frames should be kept clean or removed, according to several mill men.

Showing bad piece-ups to spinners pays off at one mill. Another mill posts all bad piece-ups in the spinning room together with the names of the spinners that made them.

One mill has reduced all gouts by about 50% since it has put in overhead cleaners and stopped using compressed air at all. This mill cleans the spinning idlers and spindles by hand with a stiff brush.

(*Continued on page 320*)

FOR SALE

2—Saco-Lowell 3 Beater Single Process Pickers, with blending reserves and motors.

40—Whitin Model E (Nasmith Type) Combers, motor drive, excellent condition.

1—Foster Model 102—7" Traverse, 80 Sp. Cone Winder.

1—Whitin Model C Wet Tape Drive Twister, 40 Sp. 6" Ga. 4¼" Ring, motor drive.

1—Johnson 5 Can Rayon Slasher, 52" Face.

28—Spindles Hacoba Auto. Filling Winders.

1—Barber-Colman 6E Stationary Tying-in Machine.

3—Size Kettles 32", 36" and 42".

4—Whitin Skein Reels, adjustable 54" to 72".

2500—Long Blade McMullen Spinning Spindles, Band Drive, 1⅛" Whorl.

J. H. WINDLE & COMPANY
H. C. MOTLEY, President
Telephone GAspee 1-6464
231 South Main St. Providence 3, R. I.

500 spindles of Ring Rover parts inc. Rabbeth spindles, bases & bolsters, 4" rings, separators, metal thread-boards, rails.

Large lot of narrow fabric parts, inc. weights, pick gears, dobby jacks and parts, misc. rolls, shuttles, etc.

3 M Ratchet ring gears, 10".

300 M Automatic Loom bobbins, 8¾", wool.

1,000,000 Wire heddles, 14" steel eye.

750 M flat steel heddles, 12", and 14".

1 M cotton Rabbeth spinning spindles, 6¾" traverse.

1200 live ends of Universal Magazine creel.

3500 Heddle frames, 60" to 70" for 12" heddles.

48 Model "D" Draper looms, 79½" reed space.

Large lot of Model "D" parts (new).

Lot of Worsted temples and parts.

Drop wires, caps, tubes, spindles, spools, bobbins, fibre cans, beams and heads, and reeds.

L. J. McCAFFREY & SON, INC.
Box 495 Pawtucket, R. I.

Egan Offers:

BRAND NEW!

IN ORIGINAL CASES!

1—P&S 2-unit 8' Automatic Loop Dryer, capacity 500 lb. per hour on 7½ oz. goods. Set up for knit goods.

1—#8 Type P 6' Rodney Hunt Tru-Shade Piece Dye Kettle, stainless steel.

1—Grand Rapids Detwister.

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"The Machinery Man Known Everywhere"
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Phone Woon 3258

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—NO "CRIPPLES"
—NO "EXEMPT" MISFITS

OUR REPUTATION IS BASED ON THE FACT THAT

WE SELL PRODUCTION

TYPICAL OFFERINGS

1—VV 50" Cloth Beamer, 54" Rolls with VV Friction Drive.
1—Multiple Ribbon Blocking Mach. Complete with Let-off.
1—C&M Brusher 66", 2 Cyl. Belt.
1—Textile 72" 2 Roll Embossing Calender.
1—VV Embossing Calender, Max. 38".
20—D&B Cards, 40" cyl. 27" Doff.
4—Mason 40" Cards, 24" Doff.
8—Woonsocket 40" Cards, 27" Doff.
3—48x48 All Iron Wool Cards.
1—48" Tolhurst Copper Basket Extractor.
1—5 Can Finishing Mach. Textile 38" Face x 30" Dia.
3—Offermann Prince Smith 3 Head Gill Boxes and Creels.
1—Silver Whitin Lap Mach. 20 Ends.
1—Ribbon Whitin Lap Mach. 9" Lap.
36—C&K 82" Auto. Looms 2x1.
68—C&K 52" RS 2x1 Dobby Looms.
4—C&K 156" RS Pick & Pick Looms.
2—C&K 128" RS Pick & Pick Looms.
14—C&K 56" RS Terry Towel Looms.
141—Draper "E" Looms, 48½ RS.
70—Draper Model "K" 45" RS Looms.
73—C&K 8-3's, 36" Looms.
8—22' Woven Label Looms, various spaces.
3—15'4" Fletcher 48 Space Drop Weights Ribbon Looms Side Cam Motions.
8—C&K 92" Heavy Worsted Looms. 4x4.
20—C&K 45" Cloth Auto. W-2 Looms, 4x1.
8—C&K 110" W-3, 25 Harn. Mtr. 1937 Looms.
32—C&K 54" 2x1 Auto. Looms.
92—8-3's Auto. Shuttle Changing Looms, 54".
28—C&K 72" RS 2x1 Looms.
8—C&K 16' Ribbon Looms, Double Deck Complete with all harness.
188—Draper Model "E" Looms, 40½ RS.
7—Draper Modified "D" Looms, 98" RS 1934.
2—Mules, 336 Sp. 2¼" Ga. D&F.
1—36 Roll 82" Woonsocket Napper.
1—66" C&M Double Bed Steam Press.
1—8 Color 12" Ribbon Printing Mach.
6—Atwood Redraw Mach. 64 Sp.
1—2 Bowl Scouring Mach. Wool Skeins.
1—Scutcher with Folder.
2—Single Thread Rayon Shearing Mach.
1—45" Parks & Woolson Shear.
1—66½" Parks & Woolson Shear.
1—5 Cyl. Johnson Slasher, 66" 3/80/550V Mtr.
1—11 Can Cocker Slasher, Stainless Steel, 50" face x 30" dia.
1—Cameron Slitter—K100.
1—Slitter, Multiple Circular Knives.
88—Atwood Double Deck Monarch Spinners, 184 Sp. ea.
2—D&F Spinning Frames, Model E, 120 Sp. ea.
1—Fully Auto. Links & Links 44" 6 Ga. Grosser Mach.
1—Fully Auto. 18" 5 Ga. Sleeve Mach.
6—Whitin Tricot Knitters 168".
1—180 Sp. Collins Twister, 3½" R.
1—Sipp Eastwood 84" Warper.
1—Eastwood Horiz. Warper 600 End Creel.
1—40" High Speed Saco Lowell Warper.
2—Cocker Warper Heads 1942-43 for 30" Beam Heads 54¼".
2—Entwistle High Speed Warpers Individual Mtr. Driven, Elec. Stop Motion in Creel.
1—Cocker High Speed Warper 624 End Magazine Creel.
1—92" D&F Pinless Warp Reel Unit.
1—Model #102 Foster Winder Yr. 1945, 80 Sp.
3—Abbott Traveling Cone Winders, 80 Sp. ea.
1—Sipp 84 Sp. Winder complete with swifts, mtr. driven.
4—Foster #101 Winders, 100 spe. ea. Twin mtr. drive.
12—#80 Universal Lessona Winders, 20 Sp. ea.

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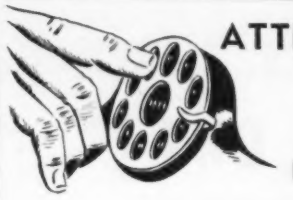

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Remember for FINISHING its "TFE" for quick delivery

and save weeks or months of waiting

1—Copper Can Dryer, 20 Copper Cans (upright) 105" Face
1—Back Dryer, 7 Copper Cans Tinned 36" Diam. x 48" Face
1—48" 3 Roll Watermangle, 2 Husk 1 Brass Roll
1—52" Single Roll Batcher
1—44" Scutcher
1—48" Scutcher
1—44" Flat Folder
1—60" Shearing Machine
1—Set of 14 Copper Dry Cans 30"x82" with Columns, Gears, Bearings, complete
1—3 roll Quetch 75" wide 2 Rubber Rolls, 1 Pad Roll
1—Copper Jacketed Kettle—5 Gallon Capacity
1—Boil-Off Machine, 5 Stainless Steel Drums and 2 St. Steel Conveyors connected to St. St. Carrier Lateral for all Rayons
1—3 Roll Quetch (all Rubber rolls) excellent condition
1—Scandia Rubbing Machine—extra set of Wool Blanket
1—One 6" Dry Valve with single place Ind. Motor and Compressor
1—Complete Caustic BOIL-OFF Modern Stainless Steel throughout, excellent condition
1—1100 Tenter Clips W & J Top & Bottom Brass
1—PAD 49" wide—1 Rubber and 1 Chromium Roll
1—PAD 45" wide—2 Rubber Rolls
1—#4 Hytor Nash VACUUM PUMP FACTORY RECONSTRUCTED with 1—30" HP 440 V. Motor
1—Gessner SUCTION SLOW 48" } For Woolens
1—48" GESSNER SCUTCHER }
43—50" COPPER DRY CANS First Class Condition
1—2 Roll Bleachouse Squeezer
2—St. Steel Lined Jigs 50" Wide
1—Stainless Steel Self-Supporting Jig 50" Wide
3—60" Hard Rubber Rolls
1—60" Medium Hard Rubber Roll
1—Arlington Power Sewing Machine
1—36" Hydro Extractor, Hercules with Motor 220 V. 3-60 Brass Basket
1—Bushnell Baling Press 51"x30"x65" High
1—1 H.P. El. Hoist 550 V. 3 P.H. 60 cycles

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TEXTILE FINISHERS EQUIPMENT
144 WEST RIVER ST.
PROVIDENCE, R. I.

FOR SALE

6—Luther Single Brush Thread Dressers with lot of fibre head spools
5—Easton & Burnham 48 spindle Spoolers
1—Klauder-Weldon Dyeing machine, copper lined, hoist type, 28 sticks
1—Permutit Water Softener, 50,000 gal. 12 hrs.
1—Rusden Boiling Kier
1—Center Spout Boiling Kier

H. H. BROWN & SONS CO.
13-33 Fourth Ave., Paterson, N. J.

BOILER UNIT

Complete 40 horsepower, oil fired boiler unit for sale, reasonable price. The equipment is entirely automatic, not requiring fireman. To be sold as a complete unit. This boiler is currently in operation and can be seen by prospective customer. It is approximately three years old and is being replaced by a larger unit due to expansion.

Available Approx. April 15

Rocky Mount Rayon Mills Inc.
Rocky Mount, North Carolina

(*Continued from page 318*)

Cots must be buffed at the correct speed, or eyebrows will result. One mill man has definitely established the fact that if one cot is a little slicker than another, the smooth cot will eyebrow.

Cleaning spinning frames was discussed by one group. One mill blows down the spinning frames once every 144 hr., brushes the ring rail once every shift, cleans the automatic overhead cleaner three times a day, mechanically picks and oils the rolls once every 24 hr., cleans the back rolls every 72 hr., wipes the clearers once a month, and cleans the revolving clearer once each 72 hr.

This mill also cleans the spindles with a special hook when the travelers are changed each week. It also cleans the bases at each overhaul. This mill also passes the board on spinning frames once each shift.

Slip rolls are cleaned when the frame is stopped at one mill. This mill tried to clean them with the frame running, but found that bad yarn was caused. The frame is stopped only three minutes for the slip-roll cleaning.

The value of integrators on the new evenness testers was discussed by one group. The integrator was believed to give a better picture of yarn and roving variation, because it evaluates the intensity of each defect. Average maximum variation was said to give a better picture of sliver variation.

A new tester for fineness and fiber maturity, the Arealometer, was described. This tester is said to give an accuracy of 5% for the immaturity. Since it is a new machine, no mill data was available on it.

Weaving

Here are the causes of wavy cloth, as explained by one mill man.

1. Take-up motion:
   - Drum loose on journal
   - Sand drum badly worn
   - Take-up gears set too deeply
   - Improper pick-gear setting
2. Beating-up motion:
   - Lay sword loose
   - Pitman-arm bearing loose
   - Clutch slipping
   - Motor pinion loose
   - Reed cradle strained or binding
3. Let-off motion:
   - Automatic let-off motion improperly set
   - Beam gear set too deeply
   - Worm shaft and worm-gear shaft worn
   - Incorrect alignment of gear-shaft bearings

Loom cleaning was discussed in de-

(*Continued on page 324*)

50 ATWOOD D. Deck Standard TWISTERS—Motorized

Individually motorized, 3 phase, 220 volts, 60 cycles. Some machines 4¼" spindle spacing, others 4½"—Machines 192, 228, 260 spindles each. All in excellent operating condition.

9 U.S. TEXTILE D. DECK 2 MOTORS TWISTERS 212 SPINDLES EACH

Acme Type, 1935 model, 4¼" spindle spacing machines in top notch condition.

100 ATWOOD 5-B DOUBLERS 80 & 100 SPINDLE MOTORIZED 4" & 5" SPINDLE SPACING

5 ATWOOD 12 OZ. PACKAGE 5-B DOUBLERS-6" GAUGE—84 SPINDLES EACH MOTORIZED

100 UNIVERSAL #50 CONERS GEAR & BELT GAINER MOTORIZED EXCELLENT CONDITION

★ 1,000 MOTORS ★
WESTERN ELECTRIC
★ AC. Type KT Series, 3 phase, 220 volts, 60 cycles, 225 2 H. P., 1200 R. P. M., 90 3 H. P., 900 R. P. M., 25 5 H. P., 1800 R. P. M. ★
Also miscellaneous motors in various speeds and phases. ★
Hundreds of Others—All sizes and speeds

125 M FIBRE SPOOLS FOR SHIPPING . . .
3" HEAD, 3⅜" TRAV.
1⅜" BAR.—IN
LIKE NEW CONDITION

★ NARROW FABRIC LOOMS ★
★ 10 FLETCHER STANDARD 15'8" ★
Complete with 32 hook dobbies, 64 and 84 space battens, ¾ H. P. direct motor gear drive, harnesses, top castles, weights, 6 pin automatic let-offs, 100 yards individual space take-ups. ★

2-Johnson 7 Can Slashers 54"

For Narrow Fabric Trade Complete with Brown Instrument Panels

STAINLESS STEEL Lot 166, 30,000
TEAMING 41½" Head
HAFTS 33⅜" Trav.
14⅜" Barrel
Hollow Gudgeons

26 C & K GEM HEAD 4x4 LOOMS . . .

16—72" wide 10—56" wide—Motorized
Heavy Duty Roller Bearing Looms, Elec. Feeler & Warp Stop Motions, in Excellent Condition—Looms Equip. with Beams—

18 FLETCHER and SCRANTON REELING MACHINES
Motorized—Complete with Automatic Stops. For 44" Skeins—6 Flys

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195 CFM—130#—9 x 9 PENNSYLVANIA SYNCHRONOUS MOTOR DRIVER WITH STARTER

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Complete Warehouse Stocks
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Repeaters. Lacers. Card Cutters. Jacquards of all description. Steel Heddles & Lingoes. Quilling Machines No. 10.
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BIALEK'S BEST BUYS

S-3 LOOMS
56" REED SPACE, 2 x 1 AUTOMATIC SHUTTLE CHANGE, 25-HARNESS EXCELLENT CONDITION

DRAPER XD
64" CLOTH—1948

S-4 LOOMS
56" REED SPACE, 4 x 1 AUTOMATIC SHUTTLE CHANGE, 25-HARNESS EXCELLENT CONDITION

PRINT PLANT EQUIPMENT
6 Color Rice-Barton, 50"
12' Cottage Steamer
Acid Ager
30' Tenter Frame

NEW G.E. LOOM MOTORS

54" Cocker Warper with 1008-End Sipp Magazine Creel

Misc. Stainless Steel Reeds

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146 Westminster St.
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Warehouse: PATERSON, N. J.

FYANS & LIST OFFER FOR IMMEDIATE DELIVERY

DRAPER MODEL X and XK LOOMS
All Motorized

664—X 42" cloth
78—XK 50" cloth
98—XK 44" cloth
12—XK 54" cloth

DRAPER MODEL E LOOMS
All Motorized

108—44" cloth
336—60" cloth
125—56" cloth

MISCELLANEOUS DRAPER LOOMS

12—Draper Modified D 68" cloth, motorized
50—Draper Model P 40" cloth, belt
34—Draper Model L 48" cloth, belt
2—Draper Model D 40" cloth, belt
4—Draper Model H 60" cloth, belt
3—Draper Model D 58" cloth, belt
4—Draper Model P 66" cloth, belt
36—Draper E Bag 21½" cloth, belt
48—Draper Modified D 74" cloth, motorized

106—C & K TERRY TOWEL LOOMS

26"-36" cloth, all automatic & belt driven, 2x1 and 4x1

C & K W-2 AUTOMATIC LOOMS

24—4x1 96" b.s., age 1936, motorized 550V

C & K S-5 and S-6
All Motorized

73—S-5 Automatic looms, age 1942, 56" b.s.
12—S-6 Looms, brand-new, 56" b.s.

8—WOONSOCKET 40" CARDS

27" doffers, 12" coilers (clothing practically new)

Miscellaneous

50—Stafford Rayon Shuttle Changing Looms—40" cloth, motorized
5—Foster 103 Winders—100 spdls. ea., wooden cones, 2 mtrs.
1—Foster Creel & Entwistle Warper—6 fans, 440 ends
94—Deliveries Saco-Pettee Drawing Frames—4 roll, good condition
56—Whitin D-3 Combers—8 hds. ea., 12" coilers
10—Whitin Ribbon Lappers—10½"-11¾" lap, motorized
10—Whitin Sliver Lappers—20 ends, 9¾" lap, motorized
1—Analytical Scale w/glass enclosure
1—Riggs & Lombard Fleetline Tenter and Baking Unit—550/60/3
2—Davis & Furber 2" Double Acting Nappers—24 rolls
1—Roy Napper Grinder
1—Davis and Furber 80" Double Acting Napper—24 rolls
10" Vulcanized fibre roving cans (used)
12" and 14" Vulcanized fibre roving cans (new)
3000—Wooden Cones for #44 Winder (cork covered)
1030—12" Pioneer Harness Frames—45½" with heddles (practically new)

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S&K Where your $$$$ buy MORE

72 C & K S-3 Looms 54" R.S.

LOOMS

50 C & K 2x1 52" R. S.
16 C & K 2x1 Automatic 72" R. S.
6 C & K 4x4 72" R. S.
1 C & K 4x1 Automatic 56" R. S.
12 Staffords 2x1 52" R. S.
10 C & K 4x4 48" R. S.
56 C & K 4x1 56" R. S.
8 C & K 4x4 54" R. S.
5 C & K 2x1 64" R. S.
4 C & K 110" R. S. 4x4
2 C & K 100" R. S. 4x4
12 C & K 92" R. S. 4x1 Automatic
24 C & K 4x1 Automatic 47" R.S.
18 C & K 4x1 Automatic 82" R.S.
56 Draper Automatic 47" R.S.
5 C & K 4x4 82" R.S.

DYEING MACHINERY

1 Jostrom fabric conditioner 64"
1 14 can Butterworth dryer 142"
1 21 can Butterworth dryer 72"
1 Textile Tenter Frame 52" wide 40' long
1 Butterworth T.F. 80'
4 Three (3) Roll Padders 45"
1 Butterworth 44 Can Dryer 50" Wide
1 60" Perkins Batcher
1 Birch Bros. Scutcher & Vacuum 60"

SILK THROWING MACHINERY

7 Atwood 5B Twisters
12 Atwood Single Deck Utility Spinners
30 Universal Coners #50
8 Sipp Warpers & Winders
20 #90 Universals
4 Oswald-Grundy 46—Spindle Cop Winders

STAVE & KESSLER

106 KEARNEY ST. P. O. Box 1611 Paterson, N. J.

Phone ARmory 4-7486

FOR SALE

1—Sargent 72" Raw Stock Dryer M. D.
2—Sargent 8' Cone Dusters-Crush Rolls
1—Metallic Breast 48"
8—C&K 100" W-3 Automatic Looms M. D.
24—C&K 90" W-2 Automatic Looms M. D.
1—P&W 4-blade Shear 66½" List Saver
1—P&W Double Shear 66½" List Saver
1—Gessner 66½" Full Decator
60—Draper Modified D Looms 73" R. S.
200—Draper E Looms 60" cloth M. D.
50—C&K S-5 Automatic Looms 56" M. D.
48—Draper E Looms 51" r.s. M. D.
50—XK Looms 50" goods M. D.
72—C&K 50" Cloth 2x1 Box Looms M. D.
400—Draper K Looms 45" M. D.
1—B. C. #LS-160 Warp Tying-in Machine
30—H&B 40" & 30-H&B 60" Cotton Cards

JAMES SPEED & CO., INC.
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HOSIERY MACHINES
used and rebuilt

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HOSIERY NEEDLES AND PARTS

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LOOMS FOR SALE

C & K, S-3, 2x1, shuttle change automatic, 72" between swords, 25 Harness Gem head, 6 bank electrical warp stop motion, Garfield let-off.

FS-8779, Textile World
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TEXTILE MACHINERY OF ALL TYPES

APPRAISALS WOOLEN—WORSTED—COTTON LIQUIDATIONS
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1 66" VOELKER PRESS

including an extra cylinder. In excellent condition. May be seen in operation.

WORCESTER TEXTILE CO., INC.
Greystone, Rhode Island

"ARE YOU AWARE?"

that you can buy a BRAND NEW JAMES HUNTER CONTINUOUS WASHING AND CARBONIZING UNIT—OUR ITEM L-WC

still in the original crates and of the following description

NEW WASHING & CARBONIZING UNIT — **Item L-WC**

James Hunter—Complete—Continuous—Working Width 90" Includes Model "D" Dryer, Washer, Detwister, Scutcher, Acid Tanks, Leeds & Northrup Acid Control, Squeeze Rolls, Complete Direct Current Electrical equipment including Motor Generator Set for Furnishing Direct Current & Individual DC Motors & Drives for each machine.

This is outstanding equipment which you might not be able to buy in many years, all ready to set up and of the latest type.

USED EQUIPMENT—AVAILABLE IMMEDIATELY

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WORSTED CARD — Item H-WC
2 Cylinder—DAVIS & FURBER
54" Diameter x 60" Face
With 60" Bramwell Picker Feed
Balling Head Delivery

1 **DERBY DOUBLER** or
SILVER LAP MACHINE — Item N-H
Saco-Lowell—Making 20" lap

WINDING

WHITIN QUILLER—MODEL J — Item FM-2
304 Spindle
2⅛" Gauge—10½" Traverse

4 **BALL WARPERS** — Item 13046
Making standard 36" ball warp

2 **YARN WARP COILERS** — Item 12166
Ceiling type

DYEING & SCOURING

8-BOWL BUTTERWORTH WASHER — Item E-W
Takes 60" Cloth
Completely rebuilt in 1946
Overall 35' L x 12' W x 8' H

DYE KETTLE FOR TOPS — Item K4155
Franklin Process Co
77 Spindle—42 Top Capacity—350#

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1 Spindle—Vomit type—70# Capacity

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Stainless Steel Throughout
60" Basket—High & Low Speed

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42" Lead-lined Copper Basket

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32" Dia. Flange—12" Dia. Barrel
60" Between flanges—NEW

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Working surface 66"
Equipped with individual motor driven cylinders

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STEAM PRESS — Item 12290
Serial #363—66" Working Width
Chain drive but without motor

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ELECTRIC FEELERS	TEMPLES
FELTS	TENSIONS
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PINION GEARS	PAPER TUBES
PICKERS (LOOM)	TRUCKS (MILL)
PICK COUNTERS	YARN REELS
	WINDER PARTS
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47 C&K Narrow fabric looms with 20 Harness Dobby heads —28-32-48-64 shuttles Reed spaces 1" to 2¼" Motorized —good for Zipper tape and Gov't specs #1 and #2A with these looms we have a quantity of narrow fabric beams and extra quillers.
124 C&K Automatic Box Looms 82" and 92"—4 x 1 Box Motorized for Woolen
110 Extra 82 Loom Beams and 35 Pair 36" steel Heads for same
One Whitin High Speed Warping Unit Model K 110" with 504 end creel, dresser beamer and compressor—all motorized
4 D&F Woolen Spoolers 48 ends with creels—individual motors—200—40" Spools
1 D&F Jack Winder 96 spindles with motor
2 Foster Model #12 Cone Winders Motorized—lot extra new spindles and parts
12 C&K 6 Harness Side Cam Looms 92" 2 x 1 Box Motorized
200 M Good 14" Heddles and Frames for Worsted or Woolen Work
12 Good #90 Universal Winders for 9" Bobbins
36M Excellent 8¾" auto Loom Bobbins for Wool or cotton
1 D&F 84" Pin dressing Reel complete with Beamer and Hoist all Motorized
108 Draper Model E Auto Looms 49" RS some Cam and dobbies motorized
48 Draper Model K Auto Looms 42" Cloth with Dobbies for Rayon Motorized
40 Draper Model D Auto Looms 40" Cloth with Dobbies for Rayon Motorized
12 Draper Model D Auto Looms 66" Cam for duck Motorized
200 Extra 44" Draper Loom Beams—Battery Cans
800 New and Used Draper Auto Shuttles (Assorted sizes)
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96 Rayon Loom Beams 46" and 52" Warp Space some all steel
2 Entwhistle #123 HS Warpers for 54" Sections Beams Motorized
70 Universal Winders #90 arranged for cotton
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150 Extra Disc Quill Tensions Complete
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250 Bunch Builders for #90—also lot extra trays and winder spindles
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2500 Harness Frames 42" to 90" Long
52M Good 7⅝" Auto Loom Bobbins for rayon
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12M Fibre Head Spools Good sizes
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Complete slipper manufacturing Unit for felt slippers

13 SEWING MACHINES, CLICKER, DIES, LASTS, FELT, TABLES, ETC, EXCELLENT CHANCE AT A REASONABLE PRICE

6 NEW PAWTUCKET 90" CLOTH INSPECTING AND MEASURING MACHINES—
SEE THESE AND ALL OUR OFFERINGS AT OUR NEW BUILDING ON YORK AVE.

Just what you need may be HERE **PAWTUCKET** **MILL SUPPLY CO., INC.** (1923)

240 York Ave., PAWTUCKET, Rhode Island

REBUILT MACHINERY FOR IMMEDIATE DELIVERY

2—W.J. Tenter Frames 30' x 54"
1—W.J. Tenter Frame, 30' x 96"
1—50" V.V. Decater M.D.
1—50"x80" Butterworth Pin Tenter Frame.
1—Knaap Narrow Fabric Warper.
2—150 gal. Jacketed Kettles with agitators.
One Set of 21-72" Dry Cans Horizontally.
2—54" General enclosed gear S. S. lined Dye Jiggs.
1—Set of 8—20" x 80" Heavy Steel Dry Cans.
1—Set of 7 copper cans, horizontal, Reeves & motor.
1—50" V. V. Button Breaker.
1—48" Tolhurst Centrifugal Self Balancing Extractor, with motor on side.
1—64" Van Vlaanderen motor driven Tuber.
1—54" King & Gerber embossing calender, M.D.
1—60" V. V. M.D. Horizontal Extractor.
2—60" motor driven Beamers.
8—Hermas measuring & inspecting machines tube to tube.
2—60" M.D. Tubing & Measuring Machines.
1—60" Measuring, Inspecting & Tubing Machine, tube to tube, new, variable speed, forward, neutral & reverse.
30-60 gallon copper steam jacketed Kettles.
1—50" Hermas Measuring & Inspecting Machine.
1—U. S. 7½ H. P. Vari-drive.
1—Sterling 7½ H. P. Vari-drive.
1—Reeves 7½ H. P. Vari-drive.
About 5,000 S. S. high speed V. V. Clips.
Agitators of various sizes.
Motors of various sizes.
New & Used Electric Hoists.

56 Model-K automatic draper looms, 47½ reed space Practically New.
2-3 ft. 2-8' 1-10' 1-14' Stainless Steel Lined Dye Boxes

SHerwood 2-7666 SHerwood 2-7667
Moe Blank
DOMESTIC EXPORT
TEXTILE MACHINERY
523-525 E. 18th ST. PATERSON 4, N. J.

FOR SALE!

1—Butterworth 30'x100" Tenter	1—Ross 3 Roll Paint Mill
1—Windsor & Jerauld 40'x50" Tenter	1—2 Roll 50" Batcher
1—4 Color 60" Print Machine	12—Dobson & Barlow 40" Cards
1—6 Color 44" Print Machine	28—Draper 4" Ring Twisters
1—7 Can Dryer, 48" Face	1—Terrell K Bobbin Stripper
1—Indanthrene Ager, 30"x58"	2—Barber-Colman Model K Knotters
1—Arlington 40" Cloth Scutcher	21—Bahnson Humidifiers
1—Logemann Cloth Baling Press	1—Saco-Lowell 54" Slasher
1—Windle 60" Cloth Doubler	1—Kerr Turbo-Generator, 50 KW
1—Hacking 42" Cloth Folder	1—Hunter Cloth Conditioner
1—Textile 50" Schreiner Calender	1—set 60"x48" Woolen Cards

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TEXTILE MACHINERY
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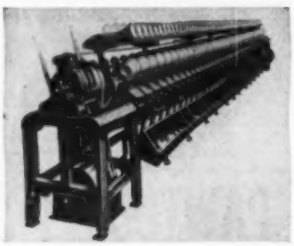
REBUILT WINDERS

We thoroughly rebuild all types of yarn winding equipment—Universal #5, #8, #10, #50, #60 and #90; Foster Model #12, #30 and #101, Lazenby, Oswald Lever, Sipp, Atwood, George Payne.



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(*Continued from page 320*)

tail by one group. The new overhead loom cleaner was described by E. Forest Kulp, American Monorail Co. The automatic loom cleaner is still in an experimental stage, but is meeting with a good deal of success in several mills. This cleaner is said to eliminate blowing-down of looms between warp changes on warps that are changed about every 12 days.

The cleaning units have been used so far on only fabrics of spun rayon and combed yarn, but installations on carded warps are planned. The unit will not clean the underside of the loom or the floor, but is designed to eliminate blowing-down between warp changes.

One combed-yarn mill making broadcloth has improved its first quality fabrics by 1% and decreased its seconds by 3%. Another mill has reduced seconds by 9%, all with the use of the automatic loom cleaner.

One mill man who blows-down with compressed air said that he had to give it up. He is weaving combed broadcloth and has changed to cleaning the loom thoroughly by hand when the warp is out.

Another mill cleans its looms periodically with solvents, and blows-down once each shift.

On cleaning filling forks, one large mill has one man to clean the forks regularly; another one has the fixer clean the forks each shift; another one has the weavers clean them; and another one fastened a stationary brush on the loom which keeps the fork clean as the lay moves back and forth.

Most of the mills oil the loom as it cleaned when the warp is out. Vacuum cleaning of looms was reported as progressing, but not entirely satisfactory yet.

The head loom fixer, called also the breakdown man or overhauler, helps fixers who get behind and does most of the major jobs, according to the majority of men in one meeting. Regular overhauling is not generally done, and preventive maintenance was practiced in only a few of the mills.

Getting supplies to the fixers differs from mill to mill. Generally, in mills where the supply room is conveniently located, the fixer gets his own parts. In mills where the supply room is not conveniently located, most mills have a runner to get the supplies at periodic intervals.

Loom fixers, weavers, and battery fillers are paid on a point system in one mill. Each job has a point valuation; and at the end of the week, each worker's points are totaled up to get his wages. This mill reports that this system works very well.

FOR SALE

2—Saco-Lowell W-3 single section waste machines, apron feed and delivery.

5—H&B 40" single process pickers, 3 beaters.

1—Lummus gyrator and distributor for 5 pickers.

1—Kitson 45" finisher picker.

24—Dobson & Barlow 40" cards, 27" doffers, good clothing.

24—Deliveries Saco-Lowell drawing, 6-deliveries to frame, 12" coilers, cushion top rolls.

54—Deliveries Saco-Lowell drawing, 6-deliveries to frame, 12" coilers, metallic top rolls.

2—Woonsocket 10x5 slubbers, 115 spindles, Saco-Lowell JIS long draft.

10—H&B 10x5 slubbers, 102 spindles, regular draft.

10—Saco-Lowell 8x4 speeders, 136 spindles, regular draft, 1929 model, excellent.

20—Frames H&B spinning, 3¾" gauge, 2½" rings, 9" traverse, tape drive, 10" ball bearing cylinders, ball bearing idler pulleys, solid blade separators, equipped with very heavy spindle for 10¼" bobbin, regular draft, 228 spindles to frame.

28—Frames H&B spinning, 3½" gauge, 2¼" rings, other specifications same as above.

6—Frames Whitin spinning, 3¾" gauge, 4 spindle band drive, 8" ball bearing cylinders, 240 spindles, equipped with Saco-Lowell long draft in 1943.

5—Frames Whitin spinning, 3½" gauge, same as above with Saco-Lowell long draft in 1943.

18—Frames Whitin spinning, 3" gauge, 4 spindle band drive, 8" cylinders, equipped with Whitin long draft, 16—252 spindles, 6—240 spindles and 2—228 spindles.

28—Draper Model E 40 looms, 3 bank stop motions, worm take-up, Roper let-off, 20" beam heads, midget feelers, 1926, model.

34—Draper Modified D 40" looms, 3-bank stop motions, worm take-up, friction let-off, 20" beam heads, midget feelers, 1925 model.

40—Draper Modified D 46" looms, 3 bank stop motions, ratchet take-up, friction let-off, 20" beam heads, midget feelers, 1912 model.

60—Draper Modified D 68" looms, 4-bank electric stop motions, worm take-up, Roper let-off, 20" beam heads, midget feelers, Stafford thread cutters, 1918 model.

515—C&K 4x1 box automatic Cotton King looms, 48½" B.S., 25 harness dobbies, motor driven, 1929 model.

COMER MACHINERY COMPANY

308 Ivy Street, N.E. Atlanta, Georgia

CYpress 2505 Cable—Comach P.O. Box 1244

WE OWN AND OFFER THESE OUTSTANDING ITEMS:

1 Riggs & Lombard Continuous Multi-Lap Piece Dye Machine
1 D & F 80" Napper, 14 Rolls.
16 C & K 48" 12-Har. 2x1 Auto. Looms with motors.
3 Foster #101 Winders.
150M (13½") Plasti Weld Mule Bobbins, Plastic Base, Metal Tip.
12 Universal #90 Winders, m.d.
1 Winsor & Jerauld 40' Long x 52" wide Tenter.
1 Saco-Lowell Size Kettle.
300 Draper E 40" Looms.
Roving Bobbins and Skewers.

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TACHOMETER BARGAIN

Jaeger Model 4010A 43-A1 43-A3

★ Ideally suited for testing the speeds of motors, particularly of fractional horse power, generators, turbines, centrifugals, fans, etc.
★ Very small Torque — requires practically no power to drive.
★ Unequalled Readability 2" Open face dial—each division on large dial equals 1 RPM; each division on small dial equals 100 RPM. 0 to 1000 RPM.
★ Greatest Accuracy—meets Navy specifications—guaranteed to be within ½ of 1%.
★ Results of test reading remain on dial until next test taken.
★ Push button for automatic resetting.

Will give accurately within a few seconds, by direct reading, the R.P.M. of shafts. Each unit, comes complete in a velvet lined carrying case 5"x3½"x1½". Net List Price $70.00—Surplus—Guaranteed.

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Your cost $22.50 F.O.B. Chicago, Ill.

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FOR SALE

1 HEAVY J MODEL 60" BEAMING HEAD & WARP COMPRESSOR 1948. With Reeves Drive-Hook Lease Reed on Stand —12 Section Beam Stands. Excellent Condition or A1 Condition
2 #90 UNIVERSAL WINDERS 1948—Disc Quill Tensions Excellent Condition
Also C&K 4x4 Jacquard Looms 44 to 58" R.S.; 4x2 C&K Silk Looms 51" R.S.; Winders, Whitin Quiller; Hydraulic Lewis Beam Truck; Sipp Skein Winder 50 Swifts; Sipp 8 yard Warper with Creel; 400 Hook Single & Double Lift C&K Jacquards. All machinery individual 550 V. Motor Driven; Section Beams 54¼"—24" heads.

FS-8244, Textile World
330 W. 42 St., New York 18, N. Y.

FOR SALE

12—Saco-Lowell Twisters. Tape, 200 sps. each, 3½" ga. 2¾" ring—Motorized. Excellent.
7—40" Whitin-Bramwell Feeders complete.
15—New Saco-Lowell 40" Continuous Card Strippers.

PROFILE ROCK MACHINERY CO.
ASSONET, MASS.

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1 D & F NAPPER—24 V. double action, 80" folder take-off.
1 D & F FEARNAUGHT PICKER—48" x 48" wooden cylinder, hopper feeder.
3 D & F DRESSER REELS 92"—pinless attachment.
5 Sets—D & F 80" Metallic Breast, 18" cylinders.
2 New Spoolers with 48" Worcester Warp machines
All sizes of Harness Frames for 14" Heddles.
2 Sets of Worsted Cards, 2 cylinder Hetherington.
5 Sets of Davison-Ferber Iron Worsted Cards. All complete—12" workers, 5" strippers. 48" x 54". All complete sets.
200,000 14" Flat Steel Heddles.
Multiple Jack Spoolers, Warp Compressing Machine Co. 40 ends, 6 spools no creel, 32 ⅛ between heads.

SAUL GREEN
MAIN STREET OXFORD, MASS.
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A&M BLANK CO., INC. OFFERS FOR

IMMEDIATE DELIVERY

1—Palmer 54" x 60" Dia., Complete with Blanket
1—8-Fan National Dry Box, Revolving Sticks
1—50" x 60' Tenter Frame, S. S. Clips, P. S. Housing
1—3-Roll 54' Calender
1—50" Semi Decator, P. W. with blanket
1—60" Floating Knife Coater
1—50" Single Color Print Machine
1—66"-4 Burner Singer, V.V. with cooling cylinders and brushes
1—52-2 Roll Quetch, extra Roll
1—72" x 70'-5-tier Pin Dryer, automatic opener
1—50" Simpson Winder
1—Merrow Sewing Machine
1—62" New Beamer
1—50" Morrison Padder
1—4-Roll 41" Calender, K. & G.
1—72" Fletcher Extractor Rubber Lined
1—48" & 1-26" Extractors Copper Baskets
1—60" E. & H. Flat Folder
1—48" Hermas Inspection & Measuring Machine
1—48" Hennekins Examining Machine
1—60" Park Woolson Single Blade Shear
1—Set 14 Stainless Steel Dry Cans 50"
1—50" Morrison Button Breaker
1—Set 17 Copper Dry Cans 80"

Remember the full name—for full value—

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NEW AND USED Textile Machinery and Supplies BOUGHT AND SOLD

SHAFFER & MAX, INC.
33-37 N. Third St., Allentown Pa.
Tel: 4-9434

WE OWN AND OFFER FOR SALE

2 Warp Compressors—Auto. Creel—410 Live Ends—Auto. Stop Motion. 16" Spacing (Like New).
1 Whitin D.D. Uptwister — 1941 — 240 Spindles—6" Gauge—4¼" Trav.—Mandrels for Paper Tube Take-up—Motorized (Spooling Available).
15 Atwood Model 4F Redraw Frames—Motorized—Accommodates 5" Dia. Head.
70M 7" Paper Cops with Metal Feelers—Thin Lip.
90M Fibre Head Winder Spools 3⅛" T x 3" H.
6 65" 4 x 4 Box Looms—Intermediate—24 H. Motorized.
14M Wood Spools 6" T x 4½" H.
12M Wood Spools 6" T x 4" H.

PENNSYLVANIA SPOOL & EQUIPMENT CO.
530 N. FULTON ST. — ALLENTOWN, PA. — Phone 3-7545

WANTED

(Additional wanted Ads on the opposite page)

WANTED

BRINTON SINKER TOP MACHINES

24"—18 CUT—64 FEED

W-8526, Textile World
330 W. 42 St., New York 18, N. Y.

WANTED
Surplus Textile Equipment of all Types
STANDARD MILL SUPPLY
1064-1080 Main Street, Pawtucket, R. I.
Empire State Bldg., New York, N. Y.
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DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.
NEW ENGLAND PRODUCTS CO.
91 Oliver St. — Boston, Mass.
Established 1919

WANTED

C&K 80" r.s. W-2 Automatic Looms
Draper 82" Looms 1x1 box single shuttle
Late Type Large apron Raw Stock Dryer
Wool Carbonizing Unit
4 or 5 Cyl. Garnett 60x30 with Breasts
40" x 48" Cotton Cards 12" Collers 27" Doffers
W-8746, Textile World
330 W. 42nd St., New York 18, N. Y.

Machinery Wanted
Used Cameron Cloth Cutter
In good condition, approximately 42" wide. Contact the
SCHOLL MFG. CO. Inc.
213 W. Schiller St. — Chicago, Illinois

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Used Textile Machinery
SINGLE ITEMS—COMPLETE UNITS
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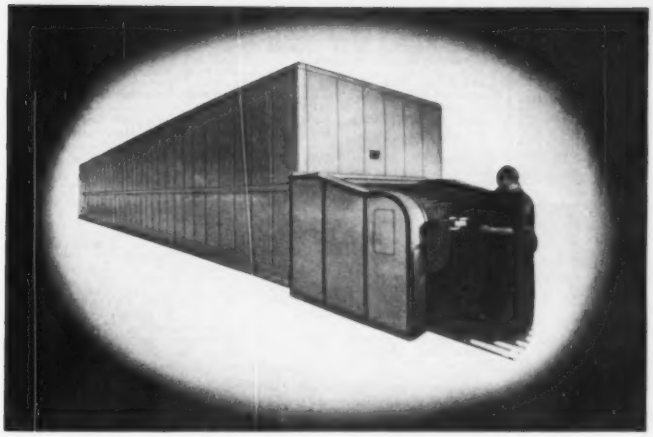

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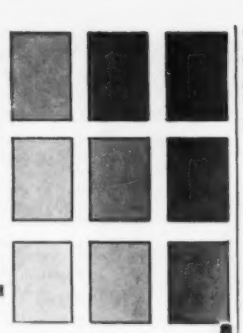

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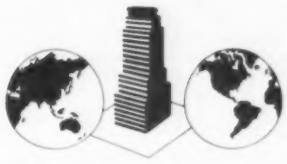
TEXTILE WORLD

FEBRUARY • 1951

International Supplement



▸ Brief Summaries in Spanish, French, and German of the Major Feature Articles in This Month's Issue

Español

Hemos añadido este suplemento a la edición completa de TEXTILE WORLD de los Estados Unidos en beneficio de nuestros estimados lectores del extranjero. En las columnas siguientes encontrará usted información sobre los artículos importantes que aparecen en las páginas de este número – información que puede ayudarle a aquilatar cada uno de los artículos originales sacándoles mayor provecho en su uso individual.

TEXTILE WORLD espera que estas traducciones breves, al idioma que es más familiar para usted, le sirvan de guía para decidir usted mismo cuáles artículos le conviene traducir por su propia cuenta, dado su interés especial en las diferentes fases de nuestra gran industria textilera mundial. Esas traducciones serán de gran valor práctico para aquellas personas de su organización que tengan dificultades con la terminologia de tejidos del idioma inglés.

Véase la página 3 de las hojas corrientes de este número para la relación completa del contenido en inglés.

Página 107

Plena Producción en 1951. Una vez más las fábricas de tejidos americanas responderán a la "llamada de la patria", y nuevamente los resultados de la producción y del acabado de hilos y telas serán extraordinarios. En el esfuerzo de conversión los textileros desempeñaran un gran papel y deben hacer sus planes con vista al futuro para que tanto sus proyectos como sus organizaciones reciban el beneficio.

Página 108

Producción Textil de 1950. El total de yardas de tejidos del ano pasado superó con creces al de 1949, y fué muy superior a los récords anteriores establecidos durante la segunda guerra mundial. Los géneros anchos de tejido de algodón mostraron más del 10 por ciento de aumento. La producción de telas de rayón aumentó en un 15 por ciento. En la división de lana el rendimiento superó en un 8 por ciento al de 1949.

Français

Ce supplément a été ajouté à notre édition régulière américaine à l'intention de nos estimés clients d'outre-mer. Dans les colonnes qui suivent vous trouverez des renseignements concernant les articles principaux de ce numéro, renseignements qui vous permettront de juger de l'intérêt que ces articles peuvent avoir dans votre cas particulier.

TEXTILE WORLD espère que ces résumés présentés dans une langue qui vous est plus familière vous permettront de décider quels sont les articles qui vous intéressent suffisamment pour que vous les fassiez traduire plus en long par un traducteur de votre ville. Ces traductions seraient utiles aux membres de votre firme non familiarisés avec la terminologie anglaise de l'industrie textile.

Consultez aussi la Table des Matières, page 3 de ce numéro.

Page 107

Production-record en 1951. Une fois de plus l'industrie textile américaine a été appelée sous les armes et une fois de plus sa production en fils, tissues et en apprêts sera remarquable. Les industriels textiles joueront un rôle important dans l'effort de mobilisation. Tant au point de vue des idéals qui sont en jeu que de celui du rendement de leurs entreprises, il est nécessaire qu'ils s'organisent pour cet effort avec le maximum d'efficacité.

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La production textile en 1950. Le métrage des textiles produits en 1950 a dépassé de beaucoup celui de 1949 et a dépassé les records qui furent établis au cours de la dernière guerre. Les cotonnades montrèrent un gain de 10%, ceux de rayonne une augmentation de 15%. En lainages la production s'accrut de 8%, comparativement à 1949.

Page 112

Progrès en matériel. Du matériel textile présentant des perfectionnements par rapport aux modèles antérieurs, fut mis sur le marché par pratiquement chacun des principaux constructeurs. Une capacité de production accrue et une application

Deutsch

Diese Beilage wurde der vollstaendigen Vereinigten Staaten Ausgabe der TEXTILE WORLD zur Erleichterung fuer unsere geschaetzten Leser in Uebersee zugefuegt. In den nachfolgenden Spalten werden Sie von den wichtigsten Fachaufsaetzen, die in diesem Heft erscheinen, in Kenntnis gesetzt, um Ihnen in der Auswahl der Original Aufsaetze, die fuer Sie von besonderem Interesse sind, behilflich zu sein.

Die TEXTILE WORLD hofft, dass Sie sich durch diese kurzen Uebersetzungen in eine Sprache mit der Sie vielleicht mehr vertraut sind, veranlasst fuehlen, Fachaufsaetze, die von besonderen Interesse auf dem Gebiet der grossen und weltumspannenden Textil Industrie sind, bei lokalen Uebersetzern ausarbeiten zu lassen. Solche Uebersetzungen waeren von praktischem Wert fuer diejenigen in Ihrem Unternehmen, die Schwierigkeiten mit englischen Fachausdruecken haben.

Siehe Seite 3 der Original Ausgabe fuer das vollstaendige Inhaltsverzeichnis in englischer Sprache.

Seite 107

Hoechst-Produktion in 1951. Wieder einmal wurden die amerikanischen Fabriken "zu den Fahnen" gerufen, und wieder werden die Produktionsresultate in der Garn- und Stofferzeugung und in der Appretur, hervorragend sein. Textilfachleute werden eine grosse Rolle in der Umstellung spielen und sollen mit einem Blick in die Zukunft planen, zum Wohle ihrer Ideale und ihrer Organisation.

Seite 108

Textilproduktion in 1950. Voriges Jahr waren die Textilmetragen bedeutend groesser als in 1949, und besser als alle Aufzeichnungen waehrend des II. Weltkrieges zeigen. Breite Baumwollgewebe zeigten eine 10%ige Steigerung, Produktion von Kunstseidenfabrikate war ca. 15%, und die von Wollstoffen um 8% hoeher als in 1949.

Seite 112

Fortschritte in der Maschinenerzeugung. In 1950 wurden beinahe von

funcional. Esta fábrica está considerada como la más moderna en el ramo de cintería.

Página 134

Barras Transversales. Las barras transversales en los tejidos de estambre pueden atribuirse a imperfecciones físicas o mecánicas. Las imperfecciones físicas se deben a la mezcla inadecuada del material, o al acondicionamiento inadecuado del material, o al acondicionamiento incorrecto de la hilaza. Las imperfecciones de carácter mecánico se producen por defectos en la hilatura, en el embobinado, en el encolado y en la tejedura. La mejor protección contra las barras transversales se obtiene mediante la más esmerada separación y la constante identificación de los hilos en cada etapa antes de la tejedura.

Página 136

El Emplazamiento es Importante en los Costos. Los análisis técnicos en las fábricas de tejidos de algodón muestran que el 31% del costo de mano de obra es por manipulación de materiales; y que en el costo de manipulación, el 70% es por emplazamiento y el 30% por transporte funcional. Las fábricas usan diversos métodos para reducir los costos de emplazamiento y elevar la producción. En el artículo se hacen constar los principios para la reducción del tiempo y costo del emplazamiento.

Página 145

Resistencia de la Tela de Rayón. Existen diversos factores poco conocidos que afectan la resistencia de las telas de rayón, cuyos factores deben tenerse en cuenta al diseñar un género. Estos factores variables comprenden cambios dimensionales, encolados y acabados, y consideraciones en el empaque, por un lado, y por el otro, daños en en la elaboración, variaciones de la longitud del urdimbre, variaciones de ondulación, hilado de diversos tamaños de hilos, y debilitamiento de los tintes y los acabados. Una tela "equilibrada" ofrece máxima resistencia.

Página 157

Aumento de Eficiencia en la Costura. La base para el control de la producción y para la alta eficiencia de una fábrica de tejidos de Georgia son las unidades de pequeña producción, las cuales consisten en pequeños grupos de operarias y sus máquinas de coser. La fábrica tiene 412 máquinas de coser de 15 tipos y modelos diferentes, y produce una gran diversidad de piezas de vestir. Las costureras y fijadoras son entrenadas como especialistas en un tipo, marca, y modelo particular de máquina. Las unidades de producción son organizadas sobre la base de un grupo de máquinas similares.

nie, d'un système de conditionnement d'air afin de s'assurer d'une production de qualité constante ne nécessitant qu'un minimum de règlage des métiers. Cette firme a également introduit un système de bâtiments sans fenêtres en plus d'un nouveau systeme d'ourdissage, d'encollage et de plissage. A citer également: une disposition pratique et efficace de toute l'usine; rattachage automatique des chaines; éclairage fluorescent; une étude complète des couleurs à appliquer aux diverses parties des métiers pour obtenir le meilleur rendement. On considère cette usine comme étant la plus moderne de son genre.

Page 134

Barrures sur les tissus peignés. Les barrures peuvent être occasionnées par des causes physiques ou mécaniques. Les premières incluent un mélange défectueux des matières premières ou une erreur dans le conditionnement des fils. Les secondes proviennent de défauts de filature, bobinage, encollage, et tissage. Un des meilleurs moyens de supprimer les barrures est de séparer méticuleusement les différents lots de fils et de les identifier de façon à rendre impossible des erreurs de lots inappropriés.

Page 136

Ce que coûte la mise en place dans les manutentions employées dans l'industrie textile. Des analyses de prix de revient dans diverses usines ont démontré que 31% des salaires sont dépensés en frais de manutention. 70% de cette catégorie de dépenses représentent le coût de la mise en place. Les 30% restants constituent les frais de déplacement proprement dits. Les usines utilisent divers systèmes pour réduire les frais de mise en place et pour augmenter le rendement. L'article expose certains principes pour diminuer les temps et frais de mise en position.

Page 145

Résistance de tissus en rayonne. Divers facteurs relativement peu connus doivent être pris en considération lorsqu'on crée une nouvelle qualité de tissu. Parmi ces facteurs citons les changements de dimensions, le genre d'encollage et d'appret ainsi que d'emballage. Ces facteurs-là peuvent être utilisés à l'avantage du tissu. Les suivants par contre peuvent donner des résultats défavorables: variations dans les longueurs des chaînes, variations dans le bouclage ou l'ondulation des fibres individuelles, encollages de compositions diverses utilisés au cours d'un même passage de la chaine, couleurs et apprets détériorés. Un tissu bien "équilibré" est celui qui offre le maximum de résistance.

Spuler, Schaeren, und Weben hervorgerufen. Vorsichtiges Auseinanderhalten und genaue Bezeichnung der verschiedenen Garnlose waehrend des Fabrikationsprozesses ist die beste Gewaehr, Schussblenden zu vermeiden.

Seite 136

Einlagerung ist wichtig in der Kostenberechnung. Kostenanalyse in Baumwollfabriken zeigt, dass 31% der Arbeitskosten fuer Handhabung der Waren aufgeht, 70% davon fuer zeitweilige Einlagerung und 30% fuer tatsaechlichen Transport. Fabriken gebrauchen verschiedene Methoden, um Einlagerungskosten zu erniedrigen und die Produktion zu erhoehen.. Es werden Grundsaetze fuer die Herabsetzung der Einlagerungskosten und Zeitersparnis angefuehrt.

Seite 145

Reissfestigkeit der Kunstseidenfabrikate. Es gibt einige, wenig bekannte, die Kunstseide beeinflussende Faktoren, die man beim Entwerfen von Geweben ins Auge fassen muss. Diese veraenderlichen Faktoren umfassen dimensionale Veraenderungen, Schlichte, Appretur, und ungleichmaessige Packung; Schaeden im Laufe des Arbeitsprozesses, wie verschiedene Kettenlaengen, Abweichungen in der Kraeuselung, zusammenlaufende abweichende Garnnummern, schwache Farbstoffe und Appreturmittel. Ein in jeder Hinsicht ausgeglichenes Fabrikat, ergibt hoechste Festigkeit.

Seite 153

Genaue Picker-Wickellaenge. Es wurde ein einfacher Mechanismus mit einer Abstellvorrichtung erfunden, um am Picker Wickel von genauer Laenge zu bekommen; kann sofort reguliert werden von 4 zu 40 yards in Abstaenden von 2-1/4 inches. Der Mechanismus ist links aussen am Zahnraedergehaeuse des Pickers befestigt und benoetigt keine spezielle Teile oder Gussformen.

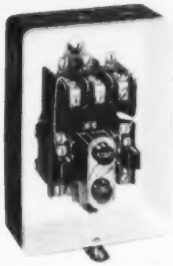
Seite 157

Erhoehte Naehleistung. Kleine Erzeugungs-Einheiten, bestehend aus kleinen Arbeitergruppen und Naehmaschinen, bilden die Grundlage zur Erzeugungskontrolle und hoher Leistungsfaehigkeit in einer Strickfabrik in Georgia. Die Fabrik hat 412 Naehmaschinen von 15 verschiedenen Typen und Modellen und erzeugt die verschiedenartigsten Bekleidungsstuecke. Saeumer und Mechaniker werden als Spezialisten fuer eine bestimmte Type, Machart und Maschinenmodell, ausgebildet. Erzeugungseinheiten werden auf Grundlage einer Gruppe aehnlicher Maschinen zusammengesetzt.

Sírvase informarnos si le gusta este suplemento.

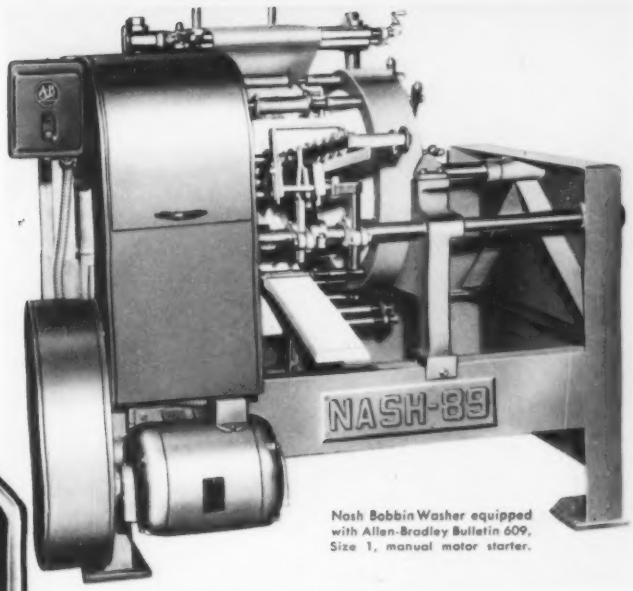
Faites-nous savoir si ce supplément en français vous intéresse.

Bitte lassen Sie uns wissen, ob diese Beilage Ihren Beifall findet.



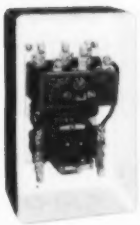
BULLETIN 609 MANUAL MOTOR STARTER

Size 1 Starter in general purpose enclosure. Double break, silver alloy contacts are operated manually with two buttons—START and STOP—with quick make, quick break action. Two reliable overload breakers protect the motor.



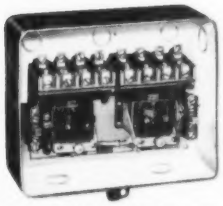
Nash Bobbin Washer equipped with Allen-Bradley Bulletin 609, Size 1, manual motor starter.

A-B Quality



BULLETIN 709 AUTOMATIC SOLENOID STARTER

Will not reclose, after line failure, until operator pushes start button. May be operated by remote control. Dependable overload relays. Knockouts on all sides; accessible terminals. Size 3 starter shown.



BULLETIN 705 MAGNETIC REVERSING SWITCH

Consists of "forward" and "reverse" contactors. Reliable overload relays protect motor. Rugged interlock on Bulletin 705 reversing switches is of positive type and cannot become locked under any conditions. Size 0 shown.

NASH BOBBIN WASHER

equipped with

Allen-Bradley Trouble Free Motor Starter

Starting requirements of your textile machines determine the type of motor starter needed. But, whether you need slow or quick starting or reversing . . . the broad line of Allen-Bradley motor controls permits you to select the exact starter for your installation.

The Allen-Bradley Bulletin 609 Manual Starter is satisfactory where there is no need for remote push button control or where no voltage protection is not required. Where remote or automatic control is essential . . . specify Bulletin 709 Solenoid Starters. For velvet smooth starting . . . select Allen-Bradley Bulletin 640 Manual or Bulletin 740 Automatic Resistance Starters. Where reversing is required . . . use A-B Bulletin 705 Reversing Switch.

All Allen-Bradley starters have double break, silver alloy contacts which are maintenance free. An Allen-Bradley control engineer will gladly recommend the starter which meets the exact requirements of your application.

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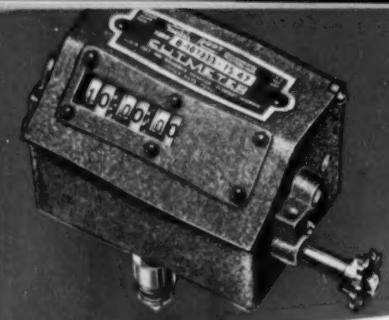
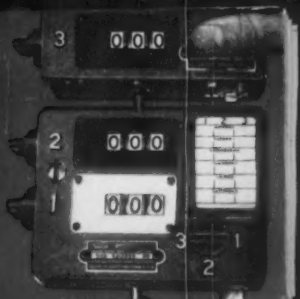
MOTOR CONTROLS FOR TEXTILE MILLS



Cut Meter for pre-determined doffing of looms.

Worm-driven Counter for recording linear units.



2-3 Convertible Pick Counter for recording loom output.

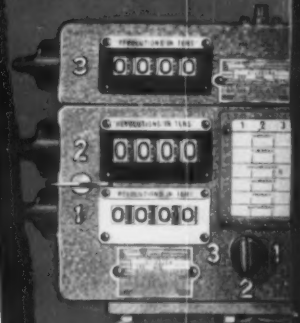
You can COUNT on VEEDER-ROOT ...all through your mill

For looms, frames, or knitting machines . . . for recording picks, cuts, hanks, revolutions, linear units, or whatever *you* want to count . . . there are direct-reading Veeder-Root Counters for the job you need done.

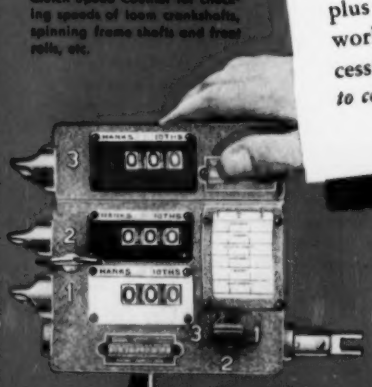
Here are some of the standard Veeder-Root Textile Counters shown in Catalog T-48. And if it takes a *special* counter to fill your bill — then's when it pays to remember that Veeder-Root has the longest engineering experience, plus the most modern plant and resources, to work your problem out most speedily and successfully. Yes, on *any* counting problem, *it pays to count on Veeder-Root.*

Hand Tally Counter for checking ends down, idle looms, etc.

Clutch Speed Counter for checking speeds of loom crankshafts, spinning frame shafts and front rolls, etc.



2-3 Revolution Counter for knitting machines.



2-3 Convertible Hank Counter for reamers, slubbers, speeders, twisters, etc.

New No. 1248 Magnetic Counter (AC or DC) used as totalizer on carpet looms, for counting drill box steps; also used on bobbin strippers and other machines.

New No. 1260 General-Purpose Counter for counting strokes, revolutions, etc.

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